DEPARTMENT OF THE AIR FORCE

SUPPORTING DATA FOR FISCAL YEARS 1998/1999

RESEARCH, DEVELOPMENT, TEST AND EVALUATION

DESCRIPTIVE SUMMARIES



FEBRUARY 1997

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VOLUME II

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THE DEPARTMENT OF THE AIR FORCE RESEARCH AND DEVELOPMENT PROGRAM **BUDGET JUSTIFICATION FOR PROGRAM ELEMENTS OF** FY 1998/1999 BIENNIAL BUDGET JUSTIFICATION BOOK FEBRUARY 1997

INTRODUCTION AND EXPLANATION OF CONTENTS

- Development, Test and Evaluation (RDT&E) program to Congressional committees during the hearings on the Fiscal Year 1998/1999 1. GENERAL: This document has been prepared to provide information on the United States Air Force (USAF) Research, Budget Estimates. This information is in addition to the testimony given by DoD witnesses.
- a. Contents: Volumes I and II contain all unclassified R-2 and R-3 exhibits. Volume III contains the following classified R-2 and R-2 classified exhibits. Volume IV contains the Facilities exhibit (DoD Form 1391) and the Combating Terrorism.
- FY1998/1999 RDT&E program except those listed in Volume III. The formats and contents of this document are in accordance with b. Exhibits R-2 and R-3 provide narrative information for all RDT&E program elements and projects within the USAF the guidelines and requirement of the Congressional committees insofar as possible.
- c. The "Other Program Funding Summary" portion of the R-2 includes, in addition to RDT&E funds, Procurement funds and quantities, Military Construction appropriation funds on specific development programs, Operations and Maintenance appropriation funds where they are essential to the development effort described, and where appropriate, Department of Energy (DoE) costs.
- d. There are three FY1998/1999 "Facilities Exhibits" that contain information on major improvement to and construction of government owned facilities funded by RDT&E located in section I of Volume IV.
- e. There are three FY1998/1999 "Combating Terrorism Exhibits" that contain information on physical security or counterterrorism located in section II of Volume IV.

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- 2: CLASSIFICATION: All R-2 and R-3 exhibits contained in Volumes I and II are UNCLASSIFIED. Classified R-2 and R-3 exhibits are now contained in Volume III. Classified pages bear the appropriate security classification and classified data is identified by use of brackets []. A list of R-2 and R-3 exhibits not included in this submission (due to the level of security classification and necessity of special security clearances) is located in Volume III.
- data shown in this document with corresponding data in the Descriptive Summaries dated February 1996 will reveal differences. The 3. COMPARISON OF FISCAL YEARS 1997 AND 1998/1999 DATA. A direct comparison of Fiscal Years 1997 and 1998/1999 table below highlights the relationship of the FY1998/1999 budget structure to the FY1997 Budget approved by Congress:

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BUDGET ACTIVITY 1: BASIC RESEARCH

BUDGET ACTIVITY 2: APPLIED RESEARCH

DEVELOPMENT

0602203F Aerospace Propulsion

0602204F Aerospace Avionics

Project 3012 terminates in FY98

Project 2000 and 7633 have been combined into Project 2000. Project 2001 and Project 2004 have been combined into Project 2001. Project 6095 and Project 7629 have been combined into Project 6095. Project

7622 and project 7662 have been combined into Project 7622.

0602602F Conventional Munitions

Project 2543 has been combined into Project 2502 beginning in FY98.

BUDGET ACTIVITY 3: ADVANCED TECHNOLOGY

DEVELOPMENT

0603205F Flight Vehicle Tech

0603211F Aerospace Structures

Efforts previously conducted under PE 0603723F, Project 2104 have been

consolidated with this PE in Project 4398

Projects 486U and 69CW have been combined into Project 486U.

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BUDGET ACTIVITY 3: ADVANCED TECHNOLOGY

DEVELOPMENT (Continued)

0603216F Aerospace Propulsion and Power Technology

y Project 2480 terminates in FY98, Project 2697 combined into Project 2480.

0603227F Personnel, Training and Simulation Tech

Projects 2743, 2922 and 2949 have been combined into Project 2743

0603231F Crew Systems & Personnel Protection Pro

Projects 2829, 2830 and 2868 have been combined into Project 2830

Funding transferred to 0603789F

0603238F Global Surveillance & Comm Tech

0603270F Electronic Combat Tech

Projects 2754 and 2432 have been combined into Project 2432.

Projects 691X radio countermeasures efforts are now reported in

Project 431G. Project 2222 expendable countermeasures and the infrared missile warning efforts from the former Project 431G are now reported in Project 691X. Project 2432 precision location and identification efforts

are now reported in Project 431G

Project 4091 terminates is FY97.

0603401F Advanced Spacecraft Tech

0603311F Ballistic Missile Tech

Project 4599 was previously called Project 0003, Reusable Launch Vehicle Technology. In FY96 this project was moved to PE 0603302F and renamed Launch Vehicle Technology. The only funds remaining in this project were added by Congress.

0603410F Space Systems Environmental Interactions Projects 2822

Projects 2822 and 2823 were combined into Project 2822.

0603601F Conventional Weapons Tech

Global Positioning System guidance and highly agile missile flight control will be developed in project 670B vice 670A.

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DEVELOPMENT (Continued)

0603707F Weather Systems Tech

0603723F Environmental Engineering Tech

0603726F C3 Subsystem Integration

0603789F C3 Advanced Development

Projects 2103 and 3037 have been combined into Project 2688.

Projects 2688, 2781 and 4026 were combined into Project 2688.

Project 3192 combined with Project 2810.

PE 0603238F has been incorporated into this PE as Project 4216 beginning in FY98.

BUDGET ACTIVITY 4: DEMONSTRATION

AND VALIDATION

0208030F WRM Ammunition

0603319F Airborne Laser Technology

0603790F NATO Research and Development

0603852F C-130J Em/Val

0603855F DoD Space Architect (Space)

0604226F B-1B

0604327F Harden Target Munitions

FY99 new start

PE has transition from Budget Activity (BA) 3 to BA 4

Funding transferred from DoD Account.

FY98 new start

Funding transferred to PE 0305917F.

Projects 1019, 1020, 1021 and 4143 were combined into Project 4596.

Funding adding in 0603311F in FY96. New PE established in FY97.

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INTRODUCTION AND EXPLANATION OF CONTENTS

BUDGET ACTIVITY 5: ENGINEERING AND MANUFACTURING DEV 0207323F Conventional Air-Launched Cruise Missile

FY99 new start

0207414F Combat Intelligence System

PEs 0207431F, 0305158F, and 0604321F combined into single PE.

0305176F Combat Survivor Evader Locator (CSEL)

Projects 1019, 1020, 1021 and 4143 are combined into Project 4596. PE will transition from Budget Activity (BA) 3 to BA 5 in FY98.

0604321F Combat Intelligence System

0604226F B-1B

Funds moved into PE 027414F beginning in FY98.

Project 3843 combined into Project 4609 beginning in FY98

Funds moved to new PE 0207581F.

Project 13C4 combined into PE 0303131F, Project 2832.

Project 0004 funding transferred from PE 0604853F.

BUDGET ACTIVITY 6: RDT&E MANAGEMENT

0605704F Theater Air Defense BMC4I

0604853F Evolved Exp Launch Veh -EMD

0604851F ICBM EMD

0604770F JSTARS

0604240F B-2

0605876F Non-Test Minor Construction (RPM)

0605878F Non-Test Maintenance and Repair

Project 06MC was transferred from PE 0605807F, project 06MC starting in FY98.

Funding and efforts of this PE have been transferred to PE 0605126J

beginning in FY98.

Project 06MR was transferred from PE 0605807F, project 06MR starting

Exhibit R-33

INTRODUCTION AND EXPLANATION OF CONTENTS

: RDT&E MANAGEMENT	
BUDGET ACTIVITY 6:	SUPPORT (Continued)

0605879F Non-Test Real Property Services

0605807F Test and Evaluation Support

1001004F International Activities

Project 06CE was transferred from PE 0605896F, projects 06CE and 06UT starting in FY98.

Project 06TS FY98 content and funding increased for Test and Evaluation to reflect a transfer of test facility maintenance and repair and minor construction requirements formerly identified in projects 06MR and 06MC.

Project 06AS requirements and funding moved to Project 06TS beginning in FY98.

Approximately 50% of Project 06MC requirements and funding were transferred to PE 0605876F (Non-Test Minor Construction), Project 06MC, beginning in FY98. The remaining 50% was identified as test mission requirements and transferred to Project 06TS.

Approximately 75% of Project 06MR requirements and funding were transferred to PE 0605878F (Non-Test Maintenance), Project 06MR beginning in FY98. The remaining 25% was identified as test facility maintenance and repair to Project 06TS.

Project 00AH has been combined into Project 4645 beginning in FY98.

INTRODUCTION AND EXPLANATION OF CONTENTS

BUDGET ACTIVITY 7: OPERATIONAL SYSTEM DEVELOPMENT

0101113F B-52 SQUADRONS

Project 4493 completes in FY97. Projects 4401 and 4402 complete is

0102325F Joint Surveillance System

Projects 2976 and 4559 have been transferred to PE 0102326F, Project

0102326F Joint Surveillance System

Project 4592 transferred from PE 0102325F

0207131F A-10 Squadrons

0207320F Sensor Fuzed Weapons

Project 3861 FY99 new start

Project 1016 funding for FY97 moved from Budget Activity (BA) 5 to BA 7

Project 4608 new start in FY99 0207323F AGM-86C Conventional ALCMS

0207414F Combat Intelligence Systems

PEs 0604321F, 0207431F and 35158F were combined into this PE.

0207419F Tactical Airborne Cmd & Control Sys

Project 4133 completes in FY97

BUDGET ACTIVITY 7: OPERATIONAL SYSTEM DEVELOPMENT (Continued)

0207431F Combat Air Intelligence

FY98 and later are reported in PE 0207414F Project 1004 moved to PE 0207414F.

0207581F Joint Stars

Funds prior to FY98 are reported in PE 0604770F

0207601F USAF Modeling and Simulation

Projects 1008 and 4582 are completed in FY98. Project 2888 was transferred from PE 0208060F

Exhibit R-33

INTRODUCTION AND EXPLANATION OF CONTENTS

0303131F Minimum Essential Emer Comm

0303140F Information Systems Security Program

0303141F Global Combat Support System

0305145F Arms Control Implementation

0305154F Defense Airborne Reconnaissance

0305158F Constant Source

0305910F Spacetrack (Space)

0305911F Defense Support Program (Space)

0305917F Space Architect

0305953F Evolved Expendable Launch Veh

0308610F Information Management Auto

0604240F B-2

Project 4610 is a FY99 new start

Project 4585 is a FY98 new start

Project 4533 was transferred from the O&M appropriation, PE 0308610F

Funds transferred to DoD (DWSA) in FY98

Project 4607 completes in FY97.

Project 4394 transferred to PE 0207414F in FY98.

Project 4239 funds moved to O&M appropriation. Project 4279 funds moved from 06072295F. Talon/Shield ALERT activities are funded in PE 0305911F Project 3615. Prior to FY95, Talon Shield/ALERT activities were funded in PE

0305911F, Project 3624.

Funds moved from PE 0603855F

Project 624A is a new FY99 new start

FY98 and outyear funding for this PE has been combined into PE

0303141F.

Project 3843 combined into Project 4609.

Exhibit R-33

INTRODUCTION AND EXPLANATION OF CONTENTS

BUDGET ACTIVITY 7: OPERATIONAL SYSTEM DEVELOPMENT (Continued) 0303601F MILSATCOM Terminals

FY97 and on funding includes Milstar terminals, SHF terminals and UHF 0303606F includes FY96 and prior funding for UHF SATCOM, and PE SATCOM. FY96 and prior funding is for Milstar terminals only. PE 0303605F includes FY96 and prior funding for SHF terminals.

0401119F C-5 Airlift Squadrons

Project 4377 completes in FY97

0401214F Air Cargo Materiel Handling

Project 5120 completes in FY97.

0401218F KC-135S

Project 4494 is a FY98 new start and Project 4403 completes in FY97

0401318F CV-22

PE terminated.

0404102F Aerospace Rescue and Recovery

0604770F JSTARS

PE terminates in FY97

Funds moved to PE 0207581F beginning in FY98.

Project 3759 terminates in FY98.

0708611F Support Systems Development

1001004F International Activities

1001018F NATO JSTARS

Funds moved from Project OOAH to Project 4645 beginning in FY98.

Funding moved from Budget Activity (BA) 7 to BA 6.

Funds have been reclassified from PE 0604770.

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PE NUMBER: 0604441F

UNCLASSIFIED

PE TITLE: Space Based IR Arch (EMD) (Space)

	RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	t-2 Exhi	bit)		DATE FeI	February 1997	760
80DC 5 - 1	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent	PE N	PE NUMBER AND TITLE 0604441F Spac	TITLE Bas	sed IR A	rch (EMD	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)		
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	165,171	189,638	338,413	580,298	660,876	576,664	707,069	1,109,374	Continuing	Continuing
616	616 SBIRS High Element EMD	156,073	189,638	338,413	549,298	582,876	426,664	287,901	184,054	209,105	3,008,722
0005	0002 Miniature Sensor Technology Integration (MSTI)	860'6	0	0	0	0	0	0	0	0	37,398
4598	4598 SBIRS Low Element EMD	0	0	0	31,000	78,000	150,000	419,168	925,320	Continuing Continuing	Continuing
	Quantity of RDT&E Articles	0	0	0	0	0	+	*-	2*		

* One each HEO sensor delivered in FY01 and FY03, one each spacecraft delivered in FY02 and FY03. Notes:

Unit cost not available.

FY97 funds of \$3.7M being transfered from PE #603441F to BPAC 0002 to support MSTI on-orbit operations and program support.

(U) A. Mission Description and Budget Item Justification

(SBIRS) will incorporate new technologies that would enhance detection; improve reporting of ICBM, SLBM and tactical ballistic missiles; and provide critical mid-Defense Support Program (DSP). This Program Element funds SBIRS Engineering and Manufacturing Development (EMD) activities and is, therefore, assigned to Budget Activity 5, Engineering and Manufacturing Development. Funding is also provided in FY96 and FY 97 for the Miniature Sensor Technology Integration (U) The purpose is to develop a system to provide increased performance to meet requirements in US Space Command's Capstone Requirements Document. The Elliptical Orbits (HEO) and Low Earth Orbits (LEO) and an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the system's primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System course tracking and discrimination data for national and theater missile defense. The system will consist of satellites in Geosynchronous Orbits (GEO), Highly (MSTI) program.

(U) Acquisition Strategy:

(U) The SBIRS program is a lead program for acquisition streamlining. Program documentation has been consolidated into a single document, the Single Acquisition and Management Plan (SAMP). The pre-EMD contracts were competed in a full and open competition. Two contracts were awarded to Lockheed/Loral/Aerojet and Hughes/TRW for the pre-EMD phase. Downselect to a single contractor, LMMS, was accomplished for the EMD phase.

Page 1 of 15 Pages

Exhibit R-2 (PE 0604441F)

RDT&E BUDGET ITEM JUSTIFIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Exhib	£	DATE February 1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Spac	AND TITLE Space Base	d IR Arch (E	ртпе Space Based IR Arch (EMD) (Space)	
(U) B. Program Change Summary (\$ in Thousands) FY (U) Previous President's Budget (FY97) (U) Appropriated Value	FY 1996 FY 1997 162,276 173,290	<u>FY 1998</u> 300,155	<u>FY 1999</u> 540,530	<u>Total Cost</u> Continuing	
opriated Value tions r Above Threshold Reprogram Reprogram get Years Since FY97 PB nit/President's Budget	2,895 2,895 165,171 189,638	38,258 338,413	39,768 580,298	Continuing	
 (U) Change Summary Explanation: Funding: FY98 adjustments realigned other procurement (3080) funds to RDT&E. FY99 increases for SBIRS Low acceleration from 2006 fielding to 2004 fielding to support National Missile Defense. Schedule: Not Applicable Technical: Not Applicable 	funds to RDT&E. to 2004 fielding to supp	port National Missi	le Defense.		
(U) C. Other Program Funding Summary (\$\hat{S}\$ in Thousands) \[\begin{array}{c} \text{FY 1996} & \text{FY 1997} & \text{FY 1997} \\ \text{(U) Missile Procurement (PE 35915F)} & 0 & 0 \\ \text{(U) O & M (PE 35915F)} \end{array}	FY 1998 FY 1999 1 0 0 12,426 11,326	FY 2000 FY 2001 0 40,810 16,323 17,566	11 FY 2002 10 274,416 56 16,267	FY 2003 To Complete Total Cost 238,789 4,700,000 5,254,015 18,110	Cost 4,015
Related RDT&E: (U) PE#603441F - SBIRS Dem/Val (U) PE#305911F - DSP					
(U) D. <u>Schedule Profile</u>	FY 1997	4	FY 1998 2 3	FY 1999 4 1 2 3 4	
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	Page 2 of 15 Pages	S	Ш	Exhibit R-2 (PE 0604441F)	
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DATE February 1997	ID) (Space)	Exhibit R-2 (DE OROA44E)	1016 N-2 (F.C. 0004444 11.)
V SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	Page 3 of 15 Pages	
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	nd Manufacturing Development	(U) First GEO Launch (FY02) First GEO Launch (FY02)	

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RDT8	RDT&E BUDGET IT	EM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	teet (R	1-2 Exhi	bit)		DATE FA	Fobruse, 1997	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing	:	Development	ent	PE NI 0 60	PE NUMBER AND TITLE 0604441F Spac	тпе pace Ba	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	ch (EMD)	(Space)	l daily	PROJECT 616
COST (\$ In	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
616 SBIRS High Element EMD	O	156,073	189,638	338,413	549,298	582,876	426,664	287,901	184,054	209,105	3,008,722
(U) A. Mission Description and Budget Item Justification (U) The purpose is to develop a system to provide increased performance to meet requirements in US Space Command's Capstone Requirements Document. The system's primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System (SBIRS) will incorporate new technologies that would enhance detection; improve reporting of ICBM, SLBM and tactical ballistic missiles; and provide critical midcourse tracking and discrimination data for national and theater missile defense. The system will consist of satellites in Geosynchronous Orbits (GEO), Highly Elliptical Orbits(HEO) and Low Earth Orbits (LEO) and an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the Defense Support Program (DSP). This Program Element funds SBIRS High Engineering and Manufacturing Development (EMD) activities.	i and Budget Item Justevelop a system to proon in is to provide initial we new technologies that rimination data for nat mid Low Earth Orbits (Im (DSP). This Program (DSP).	stification wide increas warning of a t would enha ional and the LEO) and an	ed performa ballistic miss ince detectio ater missile integrated, of integrated, of	nce to meet r sile attack on n; improve r defense. Th centralized g	equirements the US, its eporting of a system will round statio	s in US Spac deployed for ICBM, SLB! Il consist of s n serving all lanufacturing	e Command' rees or its all M and tactice satellites in G space eleme J Developme	's Capstone I ies. The Spa il ballistic m'eosynchron nts of the SE nt (EMD) ac	Requirement toc-Based In issiles; and pous Orbits ((31RS system : tivities.	fs Document. fraRed Syste provide critic GEO), Highl. , as well as tl	. The un al mid- y he
(U) FY 1996 - (U) \$118,943 - (U) \$15,650 - (U) \$16,700 - (U) \$4,780 - (U) \$4,780	Continue Pre-EMD contracts for space and ground segment development Continue Space Based InfraRed technology and phenomenology projects Continue program office activities Adjustment (Will be reprogrammed to BPAC 0002 to support Pegasus launch delay and MSTI program development) Total	contracts for sed InfraRed office activiti	r space and g technology a es ned to BPAC	contracts for space and ground segment development sed InfraRed technology and phenomenology projects office activities e reprogrammed to BPAC 0002 to support Pegasus lau	ent developi mology proj port Pegasu	nent jects 18 launch del	lay and MST.	Í program de	velopment)		
(U) <u>FY 1997</u> - (U) \$172,238 - (U) \$17,400 - (U) \$189,638	Initiate EMD contract for space and ground segment development Continue program office activities Total	act for space an office activities	and ground s	segment deve	slopment						
(U) <u>FY 1998</u> - (U) \$319,213 - (U) \$19,200 - (U) \$338,413	Continue EMD contract for Space and Ground segment development Continue program office activities Total	ract for Spac ffice activitik	e and Groun	ıd segment d	evelopment					`.	
(U) <u>FY 1999</u> - (U) \$529,698 - (U) \$19,600 - (U) \$549,298	Continue EMD contract for Space and Ground segment development Continue program office activities Total	ract for Spac ffice activitie	e and Groun	ıd segment d	evelopment						
Project 616				Page 4 of 15 Pages	5 Pages			Exhibit	Exhibit R-2 (PE 0604441F)	304441F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEE	T (R-2 Ex	nibit)	DATE	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Spac	AND TITLE	отп∟ Space Based IR Arch (EMD) (Space)	(EMD) (Spac		РRОЈЕСТ 616
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (FY97) (U) Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Above Threshold Reprogramming d. Below Threshold Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	1996 FY 1997 13,178 173,290 199,190 14,883 2,895 189,638	FY 1998 300,155 38,258 338,413	EY 1999 5 540,530 540,530 8,768 549,298	Total Cost Continuing		
 (U) Change Summary Explanation: Funding: FY97 decreases funds SBIR initiatives and FFRDC, Anti-terrorist and general Congressional reductions FY98/99 increases due to realignment of funds from Other Procurement to RDT&E. Effort recognized as part of development task. Schedule: Not Applicable Technical: Not Applicable 	ti-terrorist and genera ement to RDT&E. E	al Congressiona Effort recognize	l reductions d as part of develop	ment task.		
(U) C. Other Program Funding Summary (\$\mathcal{S}\$ in Thousands) \[\text{FY 1996} \text{FY 1997} \text{FY 1998} \] (U) Missile Procurement (PE 35915F) 0 0 0 \[\text{Related RDT&E.} \\ (U) PE #603441F - SBIRS Dem/Val (U) PE #305911F - DSP	FY 1999 0	FY 2000 FY 0 4	FY 2001 FY 2002 40,810 274,416	FY 2003 238,789	To Complete Continue	Total Cost Continue
Project 616	Page 5 of 15 Pages	s		Exhibit R-2 (PE 0604441F)	<u>= 0604441F)</u>	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	PROJECT (Space) 616
(U) D. <u>Schedule Profile</u> FY 1996	$\frac{\text{FY 1997}}{2} \qquad \qquad \frac{\text{FY 1998}}{2}$	FY 1999
	- +	4 ×
Project 616	Page 6 of 15 Pages Ext	Exhibit R-2 (PE 0604441F)

RD.	RDT&E PRO	PROGRAM EL	-EMENT/PROJECT		COST	COST BREAKDOWN (R-3)	OWN (R	-3)	DATE	February 1997	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	g and Manı		Development	٦ŧ	PE NUMBER AN 0604441F		Space Based IR Arch (EMD) (Space)	R Arch (E	MD) (Spa	(e)	РРОЈЕСТ 616
(U) A. Project Cost Breakdown (\$ in Thousan	st Breakdown	S in Thousan	(spi	FY 1996		FY 1997	FY 1998	FY 1999	66		
(U) PreEMD Contract (U) EMD Contract (U) Technology (U) Phenomenology	act			118,943 6,600		172,238	319,213	529,698	86		
	System Program Office Support Aerospace Corp Adjustment (Will be moved to BPAC 0002)	rt BPAC 0002)		6,900 6,900 9,800 4,780	000	7,200 10,200	9,000	9,400 10,200	00		
(U) Total				156,073		189,638	338,413	549,298	86		
(U) B. Budget Acquisition History and Planni Performing Organizations: Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date Product Development Organizations	runisition Historizations: Contract Method/Type or Funding Vehicle		Performing Project Activity Office F	\$ in Thousan Project Office	ds) Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
LMMS & TRW	C/CPFF	Jul 95			46,000	118,943					164,943
LMMS (EMD) TBD(Technology) TBD(Phenom) Sandia National Laboratory (Cobra Brass)	C/CPAF Various Various Various	Nov 96 Sep 95 Sep 95 Sep 95			5,000 8,300 10,000	6,600 9,050	172,238	319,213	529,698	1,537,800	2,558,949 11,600 17,350 10,000
Support and Management Organizations Aerospace Corp MORD Se Prgm Mgmt Supt Various Se	ement Organizat MORD Various	<u>ions</u> Sep 95 Sep 95			9,400	9,800	10,200	10,200	10,200 9,400	71,400 81,400	121,200
Test and Evaluation Organizations Project 616	Organizations			Pag	Page 7 of 15 Pages	šeš		ŭ	thibit R-3 (Pr	Exhibit R-3 (PE 0604441F)	

Ing and Manufacturing Development Office Based IR Arch Contract Contract Contract Contract Method/Type Award or Performing Project Total or Funding Obligation Activity Office Prior to Budget Budget Yehicle Date EAC FY 1996 FY 1997 FY 199 We 8 of 15 Pages 8 of 15 Pages	RD	T&E PRO	3RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COSTE	3REAKD	OWN (R.	(F)	DATE	February 1997	1997
or Contract If Method/Type Award or Performing Project Total Wethod/Type Award or Performing Project Total Vehicle Date EAC EAC FY 1996 FY 1996 FY 1997 FY 1999 able Page 8 of 15 Pages	BUDGET ACTIVITY 5 - Engineerin	ig and Manu	ıfacturing	Development		PE NUMBE 060444	R AND TITLE	Based IF	A Arch (E)	MD) (Spa	ce)	PROJECT 616
Page 8 of 15 Pages	Contractor or Government Activity Not Applicable	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
	Poject 616				Pag	e 8 of 15 Pag	səz		X	hibit R-3 (PI	Exhibit R-3 (PE 0604441F)	

RDT&E PROGRAM ELEMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R	(6)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AN 0604441F	PE NUMBER AND TITLE 0604441F Space	ртпе Space Based IR Arch (EMD) (Space)	Arch (El	AD) (Spac	(e;	PROJECT 616
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands) Contractor or	ed (\$ in Thousand	(5)					
Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC Government Furnished Property: Not Applicable	roject Total Office Prior to EAC FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	69,300 15,400	134,593 16,700	172,238 17,400	319,213 19,200	529,698 19,600	1,537,800 152,800	2,762,842 241,100
Adjustment for BPAC Realignment (Will be moved to 0002)		4,780					4,780
Total Project	84,700	156,073	189,638	338,413	549,298	1,690,600	3,008,722
Project 616	Page 9 of 15 Pages	ses		Ext	Exhibit R-3 (PE 0604441F)	0604441F)	

RDT&	RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	HEET (F	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE	Echinom, 4007	700
BUDGET ACTIVITY 5 - Engineering and Manufacturing	1 - 1	Development	ent	PE NI 060	PE NUMBER AND TITLE 0604441F Spac	TITLE Space Ba	D TITLE Space Based IR Arch (EMD) (Space)	ch (EMD	Space)	Jruary 1	PROJECT
COST (\$ In Thousands)	Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
0002 Miniature Sensor Technology Integration (MSTI)	logy Integration (MSTI)	860'6	0	0	0	0	0	0	0	0	37,398
(U) A. <u>Mission Description and Budget Item Justification</u> (U) The Miniature Sensor Technology Integration (MSTI) program will provide phenomenology data for the SBIRS program.	ption and Budget Iter or Technology Integra	n Justificati tion (MSTI)	<u>on</u> program wil	ll provide ph	enomenolog	ry data for th	e SBIRS pro	gram.			
(U) <u>FY 1996</u> - (U) \$16,515 - (U) -\$ 7,417	Perform on-orbit operations and program support Adjustments (Funds were reprogrammed to support	verations and	program su	pport support Pega	tsus launch	lelay and prc	perations and program support s were reprogrammed to support Pegasus launch delay and program development, not yet captured in database.	pment, not	yet captured	in database.	
860'6 \$ (A) -	BPAC 616 (SBIRS Total	EMD) prov	ided \$4.7M,	with the ren	nainder bein	g provided b	EMD) provided \$4.7M, with the remainder being provided by PEs 35160, 35110, 35906).	, 35110, 359	.(906)		
(U) <u>FY 1997</u> - (U) \$3,700 - (U) \$3,700	Planned reprogramming from 0603441F, continue on-orbit operations & program support Total	ning from 0¢	303441F, co	ntinue on-orl	bit operation	ıs & program	support				
(U) <u>FY 1998</u> - (U) 0	Total										
(U) $\frac{\text{FY } 1999}{-}$ (U) 0	Total										
 (U) B. Program Change Summary (\$\sumething{S}\$ in Thousa (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR 	nary (\$ in Thousa I Value	(spur	FY 1996 9,098		FY 1997 0	FY 1998 0	FY 1999 0	፩ I ⊙			
c. Internal Realignment Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	Reprogramming rogramming ears Since FY97 PB resident's Budget		860'6		0	0		0			
Project 0002				Page 10 of 15 Pages	15 Pages			Exhibit	Exhibit R-2 (PE 0604441F)	304441F)	

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RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Space Based IR Arch (EMD) (Space)	(Space) PROJECT
(U) Change Summary Explanation: Funding: Planned reprogramming from 0603441F \$3,700 in FY97 Shedule: Not Applicable Technical: Not Applicable		
(U) C. Other Program Funding Summary (\$\section \text{In Thousands}) Not Applicable		
Related RDT&E: (U) PE #603441F - SBIRS Dem/Val (U) PE #305911F - DSP		
(U) D. Schedule Profile		
(U) Spacecraft Complete (U) MSTI Spacecraft Launch (U) On-orbit Operations (U) X X	x x	FY 1999 1 2 3 4
Project 0002	Page 11 of 15 Pages Exhibit F	Exhibit R-2 (PE 0604441F)

RDT&E PROGRAM EL	JGRAM E		EMENT/PROJECT COST BREAKDOWN (R-3)	T COST E	3REAKD	OWN (R	-3)	DATE	1007 mo::a01	1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing	nufacturing		nent	PE NUMBER AN 0604441F	PE NUMBER AND TITLE 0604441F Space	ртпе Space Based IR Arch (EMD) (Space)	R Arch (El	MD) (Spac	eo (a)	PROJECT 0002
(U) A. Project Cost Breakdown (\$000 in Thousands)	n (\$000 in Tho	usands)	FY 1996		FY 1997	FV 1998	FV 1000			
(U) On-orbit Ops and Support(U) Adjustments(U) Total Program			16,515 -7,417 9,098	d	3,700 -3,700 0	0	7117	6 O		
(U) B. Budget Acquisition History and Plannin Performing Organizations: Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date	tory and Planni e Award or Obligation	ing Informatio Performing Activity EAC	g Information (\$ in Thousands) Performing Project Activity Office F	Inds) Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget F <u>Y</u> 1999	Budget to Complete	Total Program
Product Development Organizations Spectrum Astro CPAF Support and Management Organizations Not Applicable Test and Evaluation Organizations Not Applicable	Sep 95 Zations			28,300	16,515	3,700				48,515
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Adjustments for Reprogramming Total Project	ng			28,300 0 0 0 28,300	16,515 0 0 7,7,417 9,098	3,700 0 0 -3,700	00000	0000	0000	48,515 0 0 11,117 37,398
Project 0002			Pa	Page 12 of 15 Pages	ges		Ä	Exhibit R-3 (PE 0604441F)	0604441F)	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	2-2 Exhi	bit)		DATE	Fohriam, 1007	700
BUDGET ACTIVITY 5 - Engineering and Manufacturing L	Development	ent	PE N	PE NUMBER AND TITLE 0604441F Spac	Β ΤΙΤΙΕ Space Based IR Arch (EMD) (Space)	sed IR Ar	ch (EMD	(Space	l daily	957 PROJECT 4598
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4598 SBIRS Low Element EMD	0	0	0	31,000	78,000	150,000	419,168	925,320	Continuing	Continuing
(U) A. <u>Mission Description and Budget Item Justification</u> (U) The purpose is to develop a system to provide increased performance to meet requirements in US Space Command's Capstone Requirements Document. The system system's primary mission is to provide initial warning of a ballistic missile attack on the US, its deployed forces or its allies. The Space-Based InfraRed System (SBIRS) will incorporate new technologies that would enhance detection; improve reporting of ICBM, SLBM and tactical ballistic missiles; and provide critical mid-course tracking and discrimination data for national and theater missile defense. The system will consist of satellites in Geosynchronous Orbits (GEO), Highly Elliptical Orbits(HEO) and Low Earth Orbits (LEO) and an integrated, centralized ground station serving all space elements of the SBIRS system, as well as the Defense Support Program (DSP). This Program Element funds SBIRS Low Engineering and Manufacturing Development (EMD) activities. The DoD has recently decided to accelerate the fielding of SBIRS Low from 2006 to 2004 to support National Missile Defense, making it necessary to begin pre-EMD in FY99.	ustification rovide increase warning of a that would enha ational and thea (LEO) and an am Element fu	ed performa pallistic mis nee detectio ater missile integrated, nds SBIRS to 2004 to s	nce to meet 1 sile attack on mi; improve r defense. The centralized g Low Engine upport Natio	equirements of the US, its eporting of e system wil round statio	s in US Space deployed for ICBM, SLBN Il consist of si n serving all fanufacturing Defense, mal	ces or its alli f and tactica atellites in G space eleme Dovelopme	s Capstone] tes. The Spar laballistic m leosynchronnts of the SF ant (EMD) at sary to begin	Requirement toe-Based In issiles; and I ous Orbits (' 31RS system ctivities. Th	is Document fraRed Syst provide criti, GEO), High i, as well as t te DoD has r in FY99.	The em cal mid-
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$0 Total										
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$0 Total										
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 Total										
(U) FY 1999 (\$ in Thousands): - (U) \$31,000 SBIRS Low Pre-EMD activities - (U) \$31,000 Total	ctivities									
(U) B. Program Change Summary (S in Thousands)	(spur							Ē		
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value		FY 1996 0		FY 1997 0	FY 1998 0	FY 1999 0	ତ୍ୟ ୦	Cont		
Project 4598			Page 13 of 15 Pages	15 Pages			Exhibit	Exhibit R-2 (PE 0604441F)	504441F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2	Exhibit		DATE		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604441F Space Based IR Arch (FMD) (Space)	e Based I	R Arch (F		February 1997	PROJECT
 a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	0	0	31,000	Cont		
 (U) Change Summary Explanation: Funding: FY99 increases to fund SBIRS Low acceleration Pre-EMD activities Schedule: N/A Technical: N/A 	íties					
(U) C. Other Program Funding Summary (\$\subseteq\$ in Thousands) \[\text{FY 1996} \text{FY 1998} \] (U) Missile Procurement 0 0 0	FY 1999 FY 2000 0	FY 2001 40,810	FY 2002 274,416	FY 2003 238,789	To Complete Continue	Total Cost Continue
Related RDT&E : (U) PE #603441F - SBIRS Dem/Val (U) PE #305911F - DSP						
(U) D. Schedule Profile						
(U) First Launch (FY04) (FY 1996 1 2 3 4 1 (U) First Launch (FY04)	FY 1997 2 3 4	1 2 E	FY 1998 2 3	4	FY 1999 2 3	4
Project 4598	Page 14 of 15 Pages		Ex	hibit R-2 (P	Exhibit R-2 (PE 0604441F)	

RDT&E PROGRAM EL	GRAM EL	EMENT/	-EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	1007 A007	2007
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development	ent	PE NUMBER AN 0604441F	PE NUMBER AND TITLE 0604441F Space	Based IR	Based IR Arch (EMD) (Space)	ID) (Spac	e) e)	PROJECT 4598
(U) A. Project Cost Breakdown (\$\sumsymbol{S}\ in Thousan	ı (\$ in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999			
(U) Total			0		0	0	31,000			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ory and Plannin	ig Information	n (\$ in Thousand	(S)						
Performing Organizations: Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	e Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations TBD TBD	ns TBD							31,000	Cont	Cont
Support and Management Organizations Not Applicable*	ations									
Test and Evaluation Organizations: Not Applicable	:2-									
Government Furnished Property: Not Applicable	:									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				000	000	000	000	31,000 0 0	Cont	Cont
Total Project				0	0	0	0	31,000	Cont	Cont
*Note: SPO support for SBIRS is funded from the	funded from the	SBIRS High BPAC 616	PAC 616							
Project 4598			Page	Page 15 of 15 Pages	ses		Exhit	Exhibit R-3 (PF 0604441E)	0604441E)	
								2 1 2 1 1 2	11111	

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PE NUMBER: 0604479F

UNCLASSIFIED

PE TITLE: Milstar LDR/MDR Sat Comm (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ent	990 090	PE NUMBER AND TITLE 0604479F Milst	TITLE Milstar LD	R/MDR 5	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	(Space)		РКОЈЕСТ 5010
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
5010 Milstar Sat Comm Sys	533,613	683,685	676,690	555,050	346,425	185,236	84,717	50,948	75,725	9,574,841
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

higher data rates to mobile forces and "nulling" that will neutralize close-in enemy jammers. (Satellite 3M was originally a Milstar I satellite, but is being retrofitted with a Activity 5, Engineering and Manufacturing Development, based on Defense Acquisition Board and Defense Planning Guidance direction to fabricate and launch Satellites Milstar is a joint service program to develop and acquire extremely high frequency (EHF) satellites; a satellite mission control segment; and new or modified Army, Navy, Satellites 1 & 2 are Milstar I satellites with a low data rate (LDR) payload only that supports strategic and tactical forces with an emphasis on highly survivable, minimum essential communications. Satellites 3M-6 are Milstar II satellites with both a LDR and a medium data rate (MDR) payload with increased tactical capabilities, including and Air Force communication terminals for survivable, jam-resistant, worldwide, secure communications for the strategic and tactical warfighter in all levels of conflict. MDR payload to function as a Milstar II satellite.) This document addresses the space and mission control segments of the Milstar program. This program is in Budget 3M through 6.

	Milstar I	Launched and performed on-orbit checkout of Satellite 2.	Continued to support on-orbit operations for Satellite 1.	Started Milstar I Phase II IOT&E.	Implemented ECPs as needed based on operational requirement.	Developed and implemented modifications to SMCS to enhance mission control operations.	Continued contractor support for MCS software sustainment for mission planning and satellite operations.	Develop and field operator training equipment.		Completed MDR payload manufacturing on Satellite 3M, and started MDR integration and test on Satellite 3M.	Started MDR payload manufacturing for Satellite 4.	Completed bus integration and test for Satellite 3M.	Continued bus component manufacturing for Satellite 4.	Completed LDR integration and test on Satellite 3M, and started LDR integration and test on Satellite 4.	Completed LDR payload manufacturing on Satellite 4.	Continued LDR unit build, MDR payload manufacturing, and bus component manufacturing for Satellites 5 and 6.	
(U) FY 1996	- (U) \$56,900	(G) -	(<u>C</u>)	(<u>n</u>) -	(<u>n</u>) -	(D) -	(<u>a</u>) -	(<u>a</u>)	- (U) \$427,441	(n) -	(n) -	(n) -	(D) -	(D) -	(D) -	(D) -	

Page I of 7 Pages

Project 5010

Exhibit R-2 (PE 0604479F)

RE	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fahrian, 1007	700
BUDGET ACTIVITY 5 - Engineering a	DGET ACTIVITY - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	1	PROJECT 5010
- (U) - (U) \$49,272 - (U) \$533,613	Continued Milstar II upgrade of MCS software for mission planning. Other Government Costs Total	sion planning.		
(U) FY 1997 - (U) \$56,400 - (U) Milstar I Continue to support on-orbit operations for Satellites I and 2. Complete Milstar I Phase II IOT&E. Implement ECPs as needed based on operational requirement. Continue to implement modifications to MCS to enhance mission control operations. Transition to organic support for MCS software sustainment for mission planning and satellite operations. Develop and field operator training equipment. Milstar II Complete MDR payload manufacturing on Satellite 4, and start MDR integration and test on Satellite 4. Complete bus component manufacturing on Satellite 4. Continue LDR integration and test on Satellite 4. Continue LDR unit build, MDR payload manufacturing, and bus component manufacturing for Satellites 5 and 6. Start satellite integration and test on Satellite 3M. Start satellite integration and test on Satellite 3M. Continue Milstar II upgrade of MCS software for mission planning. Other Government Costs	orbit operations for Satellites 1 and 2. ded based on operational requirement. modifications to MCS to enhance mission control operations. pport for MCS software sustainment for mission planning and satellite operations. tor training equipment. I manufacturing on Satellite 4, and start MDR integration and test on Satellite 4. It manufacturing on Satellite 4. J. MDR payload manufacturing, and bus component manufacturing for Satellites? I integration and test on Satellite 3M. and test on Satellite 3M. and test on Satellite 3M. and est on Satellite 3M. and est on Satellite 3M.	ons. 4. tes 5 and 6.		
(U) <u>FY 1998</u> - (U) \$10,700 - (U)	Milstar I Continue to support on-orbit operations for Satellites 1 and 2. Implement ECPs as needed based on operational requirement. Continue to implement modifications to MCS to enhance mission control operations. Develop and field operator training equipment. Milstar II Complete satellite integration and test on Satellite 3M. Complete LDR and MDR payload integration and test and start satellite integration and test on Satellite 2. Start LDR and MDR payload integration and test on Satellite 5.	and 2. ement. ce mission control operations. and start satellite integration and test on Satellite manufacturing for Satellite 5.	4.	
Project 5010	Pas	Page 2 of 7 Pages	Exhibit R-2 (PE 0604479F)	

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RDT&E BUDGET ITEM	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE EARTHOUGH 400.	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Devel	Development 0604479F Milstar LDR/MDR Sat Comm (Space)	l dary	PROJECT
- (U) Continue LDR and MDR payload and bus manutacturing on 8 - (U) \$36,096 Other Government Costs - (U) \$45,090 Total (U) \$4,901 Milstar I Upgrade of MCS software for mission plan (U) \$4,901 Milstar I Continue to support on-orbit operations for Satellites 1 and 2 (U) \$514,450 Milstar II Launch, perform on-orbit checkout, and begin on-orbit testing (U) Complete satellite integration and test and deliver Satellite 4 (U) Complete LDR and MDR payload integration and test and star (U) Continue LDR and MDR payload integration and test and star (U) Continue Milstar II upgrade of MCS software for mission plan (U) \$35,505 Total	Continue LDR and MDR payload and bus manutacturing on Satellite 6. Continue Milstar II upgrade of MCS software for mission planning. Other Government Costs Total Wilstar I Continue to support on-orbit operations for Satellites 1 and 2. Implement ECPs as needed based on operational requirement. Milstar II Cambi, perform on-orbit checkout, and begin on-orbit testing of Satellite 3M. Complete satellite integration and test and deliver Satellite 4. Complete LDR and MDR payload and bus manufacturing on Satellite 6. Continue LDR and MDR payload and bus manufacturing on Satellite 6. Continue Milstar II upgrade of MCS software for mission planning. Other Government Costs		
Project 5010	Page 3 of 7 Pages	Exhibit R-2 (PF 0604479F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION S	HEET (R-	2 Exhibit		DATE February 1997	y 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE N 90	PE NUMBER AND TITLE 0604479F MIISt	TLE Istar LDR/I	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	m (Space)	PROJECT 5010
(U) B. <u>Program Change Summary (\$ in Thousands)</u>						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 541,869	FY 1997 700,278 720,278	FY 1998 672,577	FY 1999 580,005		
(U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR		-16,413				
c. Omnibus and Other Above Threshold Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB	-4,618 -3,638 0		4.113	-24 955		
(U) Current PB Submit	533,613	683,685*	676,690	555,050		
* Does not reflect -\$400,000 Below Threshold Reprogramming (BTR) for Joint Program Office Deskbook and -\$1,000,000 BTR for Modified Miniature Receive Terminals (MMRT) on the bomber forces.	r Joint Progran	n Office Deskb	ook and -\$1,00	00,000 BTR for Mo	dified Miniature Rec	eive Terminals
 (U) Change Summary Explanation: <u>Funding</u>: FY96 appropriated value represents implementation of the special termination cost clause on the Milstar contract. FY 97-98 adjustments reflect restoral of the original Automated Communications Management System (ACMS) program schedule. FY 99 decrease reflects the reduction in contractor oversight and system engineering support. Schedule: A See ACMS funding explanation. 	n of the special tent System (A	termination co .CMS) program	st clause on th	e Milstar contract.	FY 97-98 adjustments the reduction in co	s reflect ntractor

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands)

	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Comp	Total
(U) Milstar AF Command Post Terminals*	20,970	8.240	6.579	6.899	3.237	2.034	5 648	\$ 070	Cont	TBD
* Funding is maintained in PE 33601F as Other Pr	rocurement for	the AF-deve	eloped groun	d and airbor	me Comman	d Post Term	ninals of the	Milstar proc	ram DF 3360	71
includes additional funding and annualistical for	on other AT NAIL	TO THE REPORT OF THE PERSON OF					Olin To Cimiri	gord morror	51 mil. 1 L 3300	-

includes additional funding and appropriations for other AF MILSATCOM terminals.

(U) Related RDT&E.
(U) PE #303601F, MILSATCOM Terminals
(U) PE #603430F, Advanced MILSATCOM
(U) PE #604577N, EHF Satellite Communications
(U) PE#603432F, Polar Satellite Communications Program (Polar Adjunct)

Project 5010

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Exhibit R-2 (PE 0604479F)

RDT&E BUDGET		ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
вирсет аститт 5 - Engineering and Manufacturing	ig Development	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	Comm (Space) 5010
(U) D. Schedule Profile			
(U) Milstar I (LDR Only) (U) Satellite 2 Launch (U) IOC I (U) Start LDR IOT&E, Phase II (U) Complete LDR IOT&E, Phase II (U) Milstar II (LDR/MDR) (U) Satellite 3M Launch (U) Satellite 4 Launch - 1QFY00 (U) MDR IOT&E - 2QFY00 (U) IOC II - 1QFY01 (U) Satellite 5 Launch - 1QFY01 (U) Satellite 6 Launch - 1QFY02 (U) FOC - 1QFY05	1 2 3 4 1 1 x x x x	EY 1997 2 3 4 1 2 3 x x	$\frac{FY \ 1999}{2}$ x
Project 5010	Page	Page 5 of 7 Pages	Exhibit R-2 (PE 0604479F)

RDI	RDT&E PROGRAM EL		EMENT/P	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3	<u></u>	DATE Fe	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing	g and Manı	_	Development	nt	PE NUMBER AND TITLE 0604479F MIIST	AND TITLE	LDR/MDF	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	m (Space		РРОЈЕСТ 5010
(U) A. Project Cost Breakdown (\$ in Thousand	t Breakdown (S in Thousand	<u>ls)</u>	FY 1996	FY 1997	<u>766</u>	FY 1998	FY 1999			
 (U) Satellites 1/2/3L (U) Satellite 3M (U) Satellite 4 (U) Satellite 5 (U) Satellite 6 (U) Other Government Costs (U) Total 	ont Costs			56,900 99,366 215,170 81,082 31,823 49,272 533,613	11 11	56,400 92,759 331,705 47,361 06,733 48,727 88,685	10,700 98,938 235,652 154,020 141,284 36,096 676,690	4,901 82,534 150,586 133,605 147,725 35,699 555,050			
(U) B. Budget Acquisition History and Plannin	uisition Histor	y and Plannin	g Information	g Information (\$ in Thousands)	ସ						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations LMSC (Milstar I) C/CPAF	t Organizations C/CPAF	5 Jun 83	2,181,587*	2,181,587*	4,670,852	56,900	56,400	10,700	4,901	1,899	4,801,652
[Sats 3M, 4, 5, 6]	SS/CPAF	Oct 92/ Nov 94	3,355,600	3,355,600	1,240,954	427,441	578,558	629,894	514,450	561,163	3,952,460
d Manage	nent Organizat	ions									
	SS/CPFF/AF SS/CPAF	Various Various			97,436 13,999	15,334 4,693	13,930 3,743	13,945 2,824	13,414 1,000	70,202 2,001	224,261 28,260
Lincoln Lab Ogden	SS/MIPR SS/MIPR	Various Various			17,785	2,704	4,203	3,098	2,968	2,968	33,726
c c	SS/CPFF	Various			7,597	757	779	802	1,808 826	14,243	22,288
ANSER	CPFF	Feb 91			3,540	1,109	996	0	0	0	5,615
Project 5010				Pag	Page 6 of 7 Pages			Exhib	Exhibit R-3 (PE 0604479F)	0604479F)	

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RDT	RDT&E PROGRAM EL		EMENT/P	ROJECT	EMENT/PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE Fe	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing	and Manuf		Development	ŧ	PE NUMBER AND TITLE 0604479F Milst	AND TITLE F Milstar	PE NUMBER AND TITLE 0604479F Milstar LDR/MDR Sat Comm (Space)	Sat Con	ım (Space		РРОЈЕСТ 5010
Contractor or Government Performing <u>Activity</u> Miscellaneous	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996 323,534	Budget FY 1996 23,165	Budget FY 1997 23,402	Budget FY 1998 13,768	Budget FY 1999 15,683	Budget to Complete 79,047	Total Program 478,599
Test and Evaluation Organizations None.	rganizations										
Government Furnished Property:	ed Property:										
Product Development Property None.	Property										
Support and Management Property None.	nent Property										
Test and Evaluation Property None.	roperty										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	elopment Management luation				5,911,806 470,946	484,341 49,272	634,958 48,727	640,594 36,096	519,351 35,699	563,062 179,988	8,754,112 820,728
Total Project					6,382,752	533,613	683,685	676,690	555,050	743,051	9,574,841
Note: Due to the overrun on the Milstar I contract, an Over Target Baseline (OTB) was established in Jan 91 to provide a credible cost performance baseline for the remaining contractual effort. The EAC reflects the unclassified cost of remaining work scheduled after the Jan 91 rebaseline. The total program value includes all unclassified fees & incentives, and ECPs not yet definitized.	run on the Mils effort. The EA ling (approx \$4	star I contract, Creffects the B in FY82 - 92	an Over Targel unclassified co ?), all unclassif	t Baseline (OT ist of remaining fied fees & inco	B) was establisl g work schedulk entives, and EC	hed in Jan 91 ed after the J: Ps not yet de	to provide a and an 91 rebaseli. Initized.	credible cost proference on the cost proference of the total of the total of the cost proference of the cost profe	performance program valı	baseline for t Le includes al	e
Project 5010				Pe	Page 7 of 7 Pages	S		EXP	Exhibit R-3 (PE 0604479F)	0604479F)_	

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PE NUMBER: 0604480F PE TITLE: Global Positioning System Block IIF (Space)

L		RDT&E BUDGET IT	TEM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	₹-2 Exh	ibiti		DATE		7
B 2	BUDGET ACTIVITY 5 - Engineeri	ing and Manufacturing	Development	ent	PE N 06(PE NUMBER AND TITLE 0604480F Glob (Space)	TITLE 3lobal Pc	sitioning	l System	PENUMBER AND TITLE 0604480F Global Positioning System Block IIF (Space)	ruary 1	997 PROJECT 0005
		COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
ē	0005 NAVSTAR	NAVSTAR GPS BLOCK IIF	18,530	35,406	71,094	67,853	27,558	24,163	17,745	14,782	405	277,536
	Quantity of F	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(5)	A. Mission I This program Program. Th upgrade desti is classified a	(U) A. <u>Mission Description and Budget Item Justification</u> This program element funds Research and Development for the NAVSTAR Global Positioning System (GPS) space and control systems of the Block IIF Sustainment Program. This includes satellite design and development; control system, training simulator, and mission operation support center development and test; satellite upgrade design and development; control system, simulator and support center software upgrades; and R&D efforts to support deployment of GPS Block IIF. This PE is classified as Budget Activity 5, Engineering and Manufacturing Development (EMD), because it supports EMD of the GPS Block IIF satellite. Production funding for the Block IIF satellite is carried in PE 0305165.	stification elopment fo velopment; c em, simulato and Manufa 165.	r the NAVS ontrol syste r and suppo	TAR Global m, training s rt center soft elopment (El	Positioning simulator, an ware upgrad MD),because	System (GP d mission or les; and R&l	S) space and peration supp D efforts to s	control systematic control systemate de upport deplo	ems of the Bi evelopment ar yment of GP IIF satellite.	lock IIF Sus nd test; satel 'S Block IIF Production I	ainment lite . This PE funding
. 1 1 1 1	(U) <u>FY 1996</u> (U) \$15,723 (U) \$1,728 (U) \$1,079 (U) \$18,530	(U) FY 1996 (\$ in Thousands) U) \$15,723 Award Contract for Block IIF - U) \$1,728 Award Contract for Block IIF - U) \$1,079 Studies U) \$1,8730 Total	- System Sus System Susi	tainment Sa ainment Gr	- System Sustainment Satellite System Development - System Sustainment Ground System/Simulator Development	m Developm ı/Simulator I	lent Jevelopmen	12				
	(U) FY 1997 (U) \$29,342 (U) \$4,095 (U) \$4,095 (U) \$1,249 (U) \$1,249 (U) \$35,406	(U) FY 1997 (\$ in Thousands) U) \$29,342 Continue Block IIF - System Sustainment Satellite System Development U) \$4,095 Continue Block IIF - System Sustainment Ground System/Simulator Development U) \$603 Initiate Block IIF - L-5 Navigation Signal Development U) \$1,249 Studies U) \$1,249 Studies U) \$117 Mission Support U) \$35,406 Total	stainment S stainment G ion Signal D	atellite Syste round Syste evelopment	em Developi m/Simulatoi	nent r Developme	nt T					
1 1 1	(U) \$56,826 (U) \$7,559 (U) \$118	(U) FY 1998 (\$ in Thousands) U) \$56,826 Continue Block IIF - System Sustainment Satellite System Development U) \$7,559 Continue Block IIF - System Sustainment Ground System/Simulator Development U) \$118 Mission Support	ıstainment Sı ıstainment G	tellite Syste round Syste	em Developr m/Simulator	nent Developme	ij					· · · · · · · · · · · · · · · · · · ·
Pro	Project 0005				Page 1 of 4 Pages	4 Pages			Exhibit	Exhibit R-2 (PE 0604480F)	304480F)	

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET (I	R-2 Exhib	Œ	DATE Februs	February 1997
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	8 8 €	PE NUMBER AND TITLE 0604480F GIOD (Space)	τιτιε Global Posi	itioning Sy	PE NUMBER AND TITLE 0604480F Global Positioning System Block IIF (Space)	PROJECT 0005
- (U) \$481 - (U) \$6,110 - (U) \$71,094	Continue Block IIF - L-5 Navigation Signal Developmen Studies Total	oment					
(U) <u>FY 1999 (\$ in Thousands)</u> - (U) \$27,613 Continue Block - (U) \$12,281 Continue Block - (U) \$127 Mission Suppor - (U) \$18,832 Studies - (U) \$9,000 IIF/IIR/IIA Con - (U) \$67,853 Total	5 in Thousands) Continue Block IIF - System Sustainment Satellite System Development Continue Block IIF - System Sustainment Ground System/Simulator Development Mission Support Studies IIF/IIR/IIA Compatibility Testing and Integration Total	ystem Develt ystem/Simula	opment itor Developr	ent			
(U) B. Program Ch	(U) B. Program Change Summary (\$\frac{s}{1}\) in Thousands)					Ę	
(U) Previous President's Budget (U) Appropriated Value	Budget	FY 1996 18,656 19,699	FY 1997 37,142 37,142	FY 1998 74,944	FY 1999 65,262	Lotal <u>Cost</u> Continuing	
a. Cong Gen Reductions b. SBIR		-386 -416	-778 -958				
c. Omnibus or C d. Below Thresl e. Rescision (U) Adjustments to I (U) Current Budget 9	c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescision (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	-6 -361 18,530	35,406	-3,850 71,094	2,591	Continuing	
(U) Change Summary Explanation: Funding: Adjustments in F Schedule: No Change Technical: No Change	nnge Summary Explanation: Funding: Adjustments in FY98 (-3,850) and FY99 (2,591) realign funds to the years in which they are required. Schedule: No Change Technical: No Change	zn funds to th	e years in wh	ich they are requ	uired.		
(U) C. Other Progr	(U) C. Other Program Funding Summary (\$ in Thousands)						
Project 0005		Page 2	Page 2 of 4 Pages			Exhibit R-2 (PE 0604480F)	480F)
		6	950				

RDT&E BUDGET ITI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	IS NOI	HEET (R	-2 Exhi	bit)		DATE Febi	February 1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopme	•nt	PE NC 060 (Sp.	PE NUMBER AND TITLE 0604480F GIOD (Space)	inte Iobal Po	PE NUMBER AND TITLE 0604480F Global Positioning System Block IIF (Space)	System	Block IIF	PROJEC 0005	PROJECT 0005
(U) Missile Procurement (GPS Block IIF)* * Funding for GPS Block IIF resides in PE35165F	FY 1996 32,499	FY 1997 145,493	FY 1998 114,412	FY 1999 120,713	FY 2000 191,742	FY 2001 158,762	FY 2002 104,793	<u>FY 2003</u> 106,457	To Compl	Total Cost
Related RDT&E: (U) PE 0305164F, NAVSTAR GPS (User Equipment), provides receivers to use the positioning, navigation, and timing signals from satellites. (U) PE 0101221N, Fleet Ballistic Missile System, range positioning. (U) PE 0301357F and 0305913F (formerly 0102433F), Nuclear Detonation Detection System (NDS), fund NDS payloads on the GPS satellites. (U) PE 0305119F Space Boosters, funds launch services (Delta II). (U) PE 0305130F, Consolidated Space Operations Center (CSOC), funds CSOC which hosts the operational GPS Master Control Station. (U) PE 0305165F, NAVSTAR GPS Space/Control, funds for Block IIR, CSEL, JPO support, and current ground system.										
(U) D. Schedule Profile										
1 Contract (U) System Sustainment (U) System Design Review (U) Preliminary Design Review	FY 1996 2 3 x	4	1 2 x	FY 1997 2 3	4 ×	FY 1998 2 3	δ1 ε 4	다	FY 1999 2 3	4
Project 0005			Page 3 of 4 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604480F))4480F)	

RDT&	E PROC	RDT&E PROGRAM EL		PROJ	ECT	COSTB	EMENT/PROJECT COST BREAKDOWN (R-3)	OWN (R-	-3)	DATE	February 1997	1997
вирбет Астіліту 5 - Engineering and Manufacturing	and Manu	ıfacturing	Development	ent		PE NUMBER 060448((Space)	PE NUMBER AND TITLE 0604480F Globa (Space)	Il Position	PE NUMBER AND TITLE 0604480F Global Positioning System Block IIF (Space)	ım Block		РРОЈЕСТ 0005
(U) A. Project Cost Breakdown (\$ in Thousands)	Breakdown (\$ in Thousan	(spi	ഥ	FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Block IIF Development (U) Total	ment				18,530 18,530		35,406 35,406	71,094 71,094	67,853 67,853	33 33		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	sition Histor	y and Plannin	ig Informatio	n (S in Th	rousanc	ত্ত্ব						
Performing Organizations:	tions:											
Contractor or Co Government M Performing or Activity Ve	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations	<u> </u>											
for BTR N Block IIF C Development Rockwell Int	N/A CPAF	N/A 3rd Qtr 96	N/A N/A		N/A N/A	N/A N/A	8 18,522	N/A 35,406	N/A 71,094	N/A 67,853	N/A 84,653	N/A 277,536
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	opment fanagement iation						18,530	35,406	71,094	67,853	84,647	277,536
Total Project							18,530	35,406	71,094	67,853	84,647	277,536
Project 0005					Pa	Page 4 of 4 Pages	ges		Ë	hibit R-3 (Pl	Exhibit R-3 (PE 0604480F)	

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PE NUMBER: 0604600F

UNCLASSIFIED

PE TITLE: Munitions Dispenser Development

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	760
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	g Development	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604600F Muni	PENUMBER AND TITLE OGO 4600F Munitions Dispenser Development	Dispens	er Devel	opment		РРОЈЕСТ 1015
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1015 Wind Corrected Munitions Dispenser Kit	50,005	53,631	18,076	7,711	0	0	0	0	0	155,741
Quantity of RDT&E Articles	14(2,142)	170(7,140)	14(2,142) 170(7,140) 26(1,092)	0	0	0	0	0	0	210(10,374

(U) A. Mission Description and Budget Item Justification

of both bombers and fighters and significantly contribute to Air Force war fighting capabilities. WCMD kit fitted CBU-97's dropped from bombers are key to stopping enemy armored forces. A full and open competition in FY 95 led to dual awards for a competitive development effort that includes a competitive fly-off and also This PE develops a guidance kit for the CBU-87/B, CBU-89/B, and the CBU-97/B dispensers that provide inertial navigation to correct for the effects of wind transients and ballistic errors caused by wind when these munitions are released from medium to high altitudes. WCMD kit fitted weapons will improve effectiveness maintains the option for competition in production. This is funded in Engineering and Manufacturing Development because this program is developing a weapon system.

(U) FY 1996 (\$ in Thousands):

- Continue dual EMD contracts for test hardware fabrication and aircraft integration (U) \$23,956
- Program management support; includes travel, program office supplies and equipment, training, and technical engineering support (U) \$3,899
 - Conduct flight/ground tests (U) \$1,425
- Provide other government support, GFE (U) \$1,588
 - Continue aircraft integration (U) \$15,510
- Development of Common Munitions Built-In-Test (BIT)/ Reprogramming Equipment (CMBRE)
 - Total (U) \$3,627 (U) \$50,005

FY 1997 (\$ in Thousands): 3

- Continue dual EMD contracts. Includes 170 Wind Corrected Munitions Dispenser (WCMD) tail kits. (U) \$27,510
 - Complete fly-off with two contractors \$6,001 9
- Program management support; includes travel, program office supplies and equipment, training, and technical engineering support (U) \$6,664
 - Continue aircraft integration (U) \$15,712
- Continue development of CMBRE
 - (U) \$744 (U) \$53,631

Project 1015

Page I of 5 Pages

Exhibit R-2 (PE 0604600F)

RDT&E BUDGET ITEM JU	EM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	R-2 Exhib	jt)	DATE	1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ment	PE NUMBER AND TITLE 0604600F Muni	D TITLE Munitions	D TITLE Munitions Dispenser Development	Hopment 1997	PROJECT 1015
 (U) FY 1998 (\$\frac{\psi}{\psi}\$ in Thousands). (U) \$11,984 Continue dual EMD contracts. Includes 26 Wind Corrected Munitions Dispenser (WCMD) tail kits. (U) \$100 Continue flight tests (U) \$3,492 Program management support; includes travel, program office supplies and equipment, training, and (U) \$2,500 Complete integration on F-16 (U) \$18,076 Total 	udes 26 Wind Corr ludes travel, progra	ected Munitions D m office supplies a	ispenser (WCM nd equipment, t	tracts. Includes 26 Wind Corrected Munitions Dispenser (WCMD) tail kits. pport; includes travel, program office supplies and equipment, training, and technical engineering support F-16	engineering support	
(U) FY 1999 (\$\frac{\mathbf{k}}{\text{in Thousands}}. - (U) \$\frac{\mathbf{S}}{\text{2}}, 285 Complete EMD contracts - (U) \$\frac{\mathbf{Z}}{\text{2}}, 426 Program management support; includes travel, program office supplies and equipment, training, and technical engineering support - (U) \$\frac{\mathbf{S}}{\text{7}}, 711 Total	udes travel, progra	n office supplies a	nd equipment, tı	raining, and technical	engineering support	
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 50,088 53,254	FY 1997 56,229 56,229	FY1998 18,228	<u>FY1999</u> 7,784		
a. Cong Gen Reductionsb. SBIRc. Omnibus or Other Above Threshold Reprogramd. Below Threshold Reprogramming	-1,043 -1,321 -546 -13	-1,193				
e. Kescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 PB	-326	53,631	-152 18,076	-73 7,711		
 (U) Change Summary Explanation: Funding: Minor adjustments in FY96 - FY99, apart from SBIR and Congressional reductions in FY97. Schedule: No changes. Technical: No changes. 	om SBIR and Cong	gressional reductio	ns in FY97.			
Project 1015	Pa	Page 2 of 5 Pages		Exhib	Exhibit R-2 (PE 0604600F)	

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET	(R-2 E	xhibit)		P _Q	DATE Febr	February 1997	
	Development	0	PE NUMBER AND TITLE 0604600F Munitions Dispenser Development	ND TITLE	ons Dis	penser	Develop	ment	PROJECT 1015	CŢ
(U) C. Other Program Funding Summary (\$ in	in Thousands)							1		
(U) WCMD Kit Production, Proc of Ammo, AF(U) SEEK EAGLE, Proc of Ammo, AF	FY 1996 FY 1997 0 0	77 FY 1998 0 15,759 0 4,112	FY 1999 30,087	FY 2000 87,072 0	FY 2001 130,211 1,880	FY 2002 144,360	FY 2003 137,061	To Compl 217,972	Total <u>Cost</u> 762,522 5 997	•
(U) TOTAL (U) Quantities	00	-	30,08	87,072 3,555	132,091 6,805	144,360 8,320	137,061 8,082	215,634 12,179	768,514 40,000	
(U) D. Schedule Profile										
(U) Engineering Milestones	FY 1996 2 3 4		FY 1997 2 3	4	-	FY 1998 2 3	4	$\frac{\text{F}}{1}$	FY 1999 2 3 4	
Design Reviews Pilot Production	×		×							
(U) T&E Milestones Aircraft Cert Tests (FY 95) Devel Testing Competitive Fly-Off		×								
(U) Contract Milestones EMD Contract Award (FY 95) Downselect			×							
(U) Other Program Events DT/OT LRIP FY (B-52) RAA FY (F-16) Milestone III FRP FY 00/1			×		×	M			**	
Project 1015		Page 3	Page 3 of 5 Pages				Exhibit R	Exhibit R-2 (PE 0604600F)	4600F)	

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RI	RDT&E PROGRAM EL	GRAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	(6)	DATE	February 1997	797
BUDGET ACTIVITY 5 - Engineeri	вирсет АстіviтY 5 - Engineering and Manufacturing	ufacturing	Development	ent	PE NUMBER AN 0604600F		ions Disp	D TITLE Munitions Dispenser Development	elopment	S In a large	РВОЈЕСТ 1015
(U) A. Project ((U) A. Project Cost Breakdown (\$ in Thousand	(\$ in Thousand	(sp	FY 1996		FY 1997	FY 1998	FY 1999	6		
 (U) Major Contracts (U) Support Contracts (U) Program Office Support (U) Aircraft integration (U) Aircraft integration (U) Government Furnished I (U) CMBRE (U) Total 	Major Contracts Support Contracts Program Office Support Test And Evaluation Aircraff integration Government Furnished Equipment (GFE) CMBRE	nent (GFE)		23,956 1,818 2,081 1,425 15,510 1,588 3,627 50,005		27,510 1,800 1,864 6,001 15,712 0 744 53,631	11,984 1,850 1,642 100 2,500 0 0 18,076	5,285 1,850 576 0 0 0 0 0 0 0 7,711	55 0 0 0 0 0 0		
(U) B. Budget Acquisition History and Plannin. Performing Organizations:	cquisition Histor	ry and Plannin	ig Information	g Information (\$ in Thousands)	(S						
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations WCMD C/CPAF Development Lockheed Contractors Martin	nent Organizations C/CPAF Lockheed Martin	<u>s</u> Jan 95		85,096	16,361	23,956	27,510	11,984	5,285	0	85,096
Support and Management Organizations	gement Organizat	tions Each of		757	c		•	ţ	;		
Sverdrup	C/CPAF	re0 91 Jul 96		433 5,097	1,090	1.001	130 906	100	100	0 0	453
ANSTEC	C/CPAF	Aug 95		1,831	375	342	414	350	350	0	1,831
SAIC ASC/YH	C/CPAF	Jun 95 Ian 98		1,746	344	352	350	350	350	0	1,746
	•			107,	1,021	2,001	1,004	1,042	9/6	•	7,234
Project 1015				Pag	Page 4 of 5 Pages	sə		Exh	Exhibit R-3 (PE 0604600F)	0604600F)	
)						

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RDT&E PROGRAM E	GRAM EL	EMENT/F	EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ufacturing	Development	ent	PE NUMBE 060460	PE NUMBER AND TITLE 0604600F Munit	PE NUMBER AND TITLE OF OR OT OR OF OR OT	enser Dev	elopment		PROJECT 1015
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1996</u>	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Test and Evaluation Organizations 46 OG/OGML Acft Integration	Jan 98 Jan 98		8,037 37,377	511 3,655	1,425 15,510	6,001 15,712	100	00	0 0	8,037 37,377
Government Furnished Property:	:									
Product Development Property SFW/CEM/SE FPI CMBRE CPAF	Apr 97 Feb 97		4,479 4,371	2,891	1,588	0 744	0 0	0	0	4,479
Support and Management Property: None	None None									
Test and Evaluation Property: None	je									_
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation TOTAL			93,946 16,381 45,414 155,741	19,252 2,900 4,166 26,318	29,171 3,899 16,935 50,005	28,254 3,664 21,713 53,631	11,984 3,492 2,600 18,076	5,285 2,426 0 7,711	0000	93,946 16,381 45,414 155,741
Project 1015			Pa	Page 5 of 5 Pages	es		Exh	Exhibit R-3 (PE 0604600F)	0604600F)	

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PE NUMBER: 0604602F

UNCLASSIFIED

PE TITLE: Armament Ordnance Development

RDT&E BUDGET IT	EM JUS	STIFICA	TION SI	HEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe	February 1997	792
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	ig Development	ent	PE N	PE NUMBER AND TITLE 0604602F Arma	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	t Ordnan	ce Devel	opment		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	7,600	3,483	1,597	135	140	138	140	144	144 Continuing	TBD
3133 Bombs & Fuzes	7,463	3,354	1,461	0	0	0	0	0	0	12,278
5613 Container Design Retrieval System	137	129	136	135	140	138	140	144	Continuing	TBD
Quantity of RDT&E Articles	138(\$806)	609(\$2852)	0	0	0	0	0	0	0	0 747(\$3658)

(U) A. Mission Description and Budget Item Justification

equipment and eliminate unnecessary duplication of containers. The Bombs and Fuzes Project 3133 satisfies TAF ROC 323-75, Proximity Fuzes, dated 2 Sep 75; TAF SON 305-85, Hardened Target Munitions, dated 14 Oct 86; OSD letter requirement for a common bomb fuze, dated 11 Apr 80; SAC message 041901Z Feb 87, M117 Advanced Fuze Family, dated 13 May 93. This project funds development of specific fuze types for air-to-ground munitions. The RDT&E Research Category/Budget Activity is Engineering and Manufacturing Development because the projects support the EMD development phase of several munitions related items and functions. This program is funded in budget activity 5 - Engineering and Manufacturing Development because the projects support the EMD development phase of several High Drag Capability(s); Joint Mission Need Statement (MNS) TAF 401-91 for Adverse Weather Strike Capability, dated 4 Nov 91; and CAF MNS 314-90 for the The Container Design Retrieval System (CDRS), Project 5613, satisfies several USAF and tri-service requirements for standardization of armament and support munitions related items and functions.

Page 1 of 12 Pages

Exhibit R-2 (PE 0604602F)

Properties of the Personal Program Chairse Summary G in Thousands)	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil	pit)		DATE Fol	Fahruan, 1997	6
FY 1997	ing and Manufacturing I	ent	PE NI 060	MBER AND 14602F A	πLE rmamen	Ordnan	ce Deve	opment	o dan d	
FY 1997	(U) B. Program Change Summary (S in Thousands)									
-87 -69 -221 -83 -33 -12 -12 -12 -145 -153 -152 -146 -1597 -12 -12 -14 -14 -1597 -152 -14 -14 -1597 -152 -14 -14 -1597 -152 -14 -1597 -152 -14 -1597 -15815 -15,815 -1	(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Annronriated Value	FY 199 7,59 8,07	E	1 <u>997</u> 3,642 3,642	FY 1998 1,609	FY 19	<u> 99</u> 37	Total <u>Cost</u> 13,463 13,463		
1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Complete or Department of Defense. Exhibit R-2 (PE 0604602F)	a. Cong Gen Reductions a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (1) Adjustments to Budges Vacus Since EV 1007 DD	-15 -15 -15 -15 -15	03328	-87 -69 -3	9			-245 -221 -83 -33		
To 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Compl Compl S,940 8,140 8,340 8,528 10,800 44,803 100,653 Ce or Department of Defense.	(U) Current Budget Submit/FY 1998 PB	7,60		3,483	-12 1,597	-	-2 35	-14 12,815		
To 5,940	 (U) Change Summary Explanation: Funding: FY96 and FY97 changes were for gent Schedule: N/A Technical: N/A 	eral Air For	se reductions	.ž						
To T	(U) C. Other Program Funding Summary (\$ in Thousands) Appropriation: Ammunition Procurement, AF, PE: 0208030F Program Title: Joint Programmable Fuze WSC 356170									
ce or Department of Defense. e 2 of 12 Pages		FY 1997 4,125	FY 1998 5,940	FY 1999 8,140	FY 2000 8,340	FY 2001 8,528	FY 2002 10,800	FY 2003 44,803	To <u>Compl</u> 100,653	Total <u>Cost</u> 191,329
	Related Activities: PE 0604618F and PE 0604618N, Joint Direct There is no unnecessary duplication of effort	Attack Mur within the A	ition ir Force or L	Department o	f Defense.					
			Page 2 of 1	2 Pages			Exhibi	t R-2 (PE 00	304602F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	TEET (F	8-2 Exh	bit)		DATE Fe	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ent	PE N	PE NUMBER AND TITLE 0604602F Arma	TITLE Armamer	PENUMBER AND TITLE OF ORGANICE DEVELOPMENT OF THE DEVELOPMENT	ice Deve	lopment		РРОЈЕСТ 3133
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3133 Bombs & Fuzes	7,463	3,354	1,461	0	0	0	0	0	0	12,278
Quantity of RDT&E Articles	138(\$806)	609(\$2852)	0	0	0	0	0	0	0	747(\$3658)
id Budget Item ject develops an t Attack Munitio	Justification d improves con n (JDAM) prog	ventional bor	ombs and fuz ard Target S	zes includin	g the develog	pment of the its developn	Joint Progra	ımmable Fuz ıroject.	æ (JPF) and	a unitary
 (U) FY 1996 (\$\frac{\mathbf{x}}\$ in Thousands): (U) \$\frac{\mathbf{x}}\$ 1,803 Complete JPF Cold Sled Test (CT&E) (U) \$\frac{\mathbf{x}}\$ 3,610 Complete JPF Developmental Test and Evaluation (DT&E1)(DT&E). (U) \$\frac{\mathbf{x}}{\mathbf{x}}\$ 2,050 Fabricate JPF Developmental Test and Evaluation 2 (DT&E2). (U) \$\frac{\mathbf{x}}{\mathbf{x}}\$ 7,463 Total 	Test (CT&E iental Test an ental Test an) d Evaluatior d Evaluation	1 (DT&E1)(DT&E).).						
 (U) FY 1997 (\$\frac{\psi}{10}\$ in Thousands). (U) \$\frac{\psi}{10}\$ 1,600 Complete JPF DT&E.2 (U) \$\frac{\psi}{10}\$ 1,336 Complete JPF IOT&E. (U) \$\frac{\psi}{20}\$ 260 Complete JPF Functional Configuration Audit. Production Readiness Review, and Physical Configuration Audit. (U) \$\frac{\psi}{2}\$ 354 Total 	Configuratio on Flight Tes	n Audit. Pro t.	duction Rea	diness Revi	ew, and Phy	sical Configu	ıration Audi	ن		
(U) <u>FY 1998 (\$ in Thousands):</u> – (U) \$ 1,461 Complete JPF/JDAM Integration Flight Test	tegration Flig	ht Test								
(U) <u>FY 1999 (\$ in Thousands):</u> None.										
Project 3133			Page 3 of 12 Pages	12 Pages			Exhib	Exhibit R-2 (PE 0604602F))604602F)	
			961							

RDT&E BUDGET ITEM JU	EM JUSTIFICATION SHEET (R-2 Exhibit)	HS NOI	EET (R	-2 Exhit	oit)		DATE Febr	February 1997	197
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ment	PE NUI	PE NUMBER AND TITLE 0604602F Arma	D TITLE Armament Ordnance Development	Ordnan	ce Devel	opment	T (1)	PROJECT 3133
(U) B. Program Change Summary (S in Thousands)									
(U) Previous President's Budget (U) Appropriated Value	FY 1996 7,460 7,935	FY	FY 1997 3,509 3,509	<u>FY 1998</u> 1,473	FY 1999 0	<u>60</u>	Total Cost 12,917 12,917		
(c) Adjustments to Appropriated Vatue a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-155 -152 -83		-83				-238 -221 -83		
 d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB 	-33 -49 7,463		-3	-12 1,461		0	-33 -52 -12 12,278		
(U) Change Summary Explanation: Funding: FY96 reductions were for SBIR, general Cor FY97 reduction due to inflation adjustment. Schedule: N/A Technical: N/A	general Congressional Reductions, support for Bosnia operations, and rescissions for F-16s to Jordan. adjustment.	ductions, sup	pport for Bo	snia operatio	ms, and resc	issions for l	-16s to Jordan	ei.	
(U) C. Other Program Funding Summary (S in Thousands) Appropriation: Ammunition Procurement, AF, PE: 0208030F Program Title: Joint Programmable Fuze WSC 356170	S							É	E
FY 1996 (U)	6 FY 1997 0 4,125	FY 1998 5,940	FY 1999 8,140	FY 2000 8,340	FY 2001 8,528	FY 2002 10,800	FY 2003 44,803	Lo Compl 100,653	Cost 191,329
Related Activities: PE 0604618F and PE 0604618N, Joint Direct Attack Munition There is no unnecessary duplication of effort within the Air Force or Department of Defense.	ect Attack Mun ort within the Ai	ition ir Force or D	epartment c	of Defense.					
Project 3133		Page 4 of 12 Pages	2 Pages			Exhib	Exhibit R-2 (PE 0604602F)	04602F)	

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RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	_
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604602F Armament Ordnance Development	PROJECT 3133	5
(U) D. Schedule Profile Joint Programmable Fuze (JPF) FY 1996 1 2 3 4 (U) Complete CT&E (U) Start DT&E (U) Start IOT&E (U) Start IOT&E (U) Complete IOT&E (U) Complete IOT&E (U) Complete IOT&E	FY 1997 X X X X X Y X X X X X X X	3 4 1 2	m
Project 3133	Page 5 of 12 Pages	Exhibit R-2 (PE 0604602F)	
	220		

Decided Continuer Deci	g and Manufacturing Development st Breakdown (\$ in Thousands) FY 1996 6,718 or support nent support vernment Total 7,463	BUDGET ACTIVITY 5 - Engineering and Manufacturing (U) A. Project Cost Breakdown (\$ in Thous) (U) a. Contractor (U) b. Government Testing Contractor support Management support ECO Government Total (U) Total	6,718 68 225 341 111 7453	E NUMBER AND TITLI D 604602F Arm 1,166 1,120 441 400 227 2,188 3,354	EY 1998 250 250 300 89 1,211 1,461	FY 1999
FY 1996 FY 1997 FY 1999 FY 1	st Breakdown (\$ in Thousands) FY 1996 6,718 68 or support 225 nent support 341 vernment Total 745	(U) A. Project Cost Breakdown (\$ in Thouss (U) a. Contractor (U) b. Government Testing Contractor support Management support BCO Government Total (U) Total	FY 1996 6,718 68 225 341 111 745	1,166 1,120 441 400 227 2,188 3,354	FY 1998 250 322 500 300 89 1,211 1,461	FY 1999 0
retor retinent festing festing festing fourtactor support Government Total T,463 Fage 6 of 12 Pages	6,718 1,166 250 or support support cent support cent support cent support cent support 341 400 300 111 227 89 7,463 3,354 1,461	(U) b. Government Testing Contractor support Management support ECO Government Total (U) Total	6,718 68 225 341 111 745 7,463	1,166 1,120 441 400 227 2,188 3,354	250 322 500 300 89 1,211	0 0
resting 68 1,120 322 Contractor support 225 441 500 300 Contractor support 341 400 300 COVERNMENT Total 111 227 89 COVERNMENT Total 7,463 3,354 1,461 Page 6 of 12 Pages	68 1,120 225 441 nent support nent support nent Total 7,463 3,354 1.	(U) b. Government Testing Contractor support Management support ECO Government Total (U) Total	68 225 341 111 745 7,463	1,120 441 400 227 2,188 3,354	322 500 300 89 1,211	O
7,463 3,354 1,461 Page 6 of 12 Pages	7,463 3,354	(U) Total	7,463	3,354	1,461	
Page 6 of 12 Pages						
Page 6 of 12 Pages						
		Project 3133	Page 6	of 12 Pages		Exhibit R-3 (PF 06

RDT&E PROC	PROGRAM EL	EMENT/PROJECT	ROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development)nt	PE NUMBER AN 0604602F		b ਸπ.∈ Armament Ordnance Development	ance Dev	elopment	i i	РРОЈЕСТ 3133
(U) B. Budget Acquisition History and Planni	ry and Plannin	ng Information (\$ in Thousands)	(\$ in Thousa	(spu			: :			
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations Motorola	<u>s</u> Jul 93	19,743	19,743	11,609	6,718	1,166	250	0	0	19,743
Support and Management Organizations TEAS/TEAMS ASC/YHP Other	tions Oct 96	2,125 1,638 677	2,125 1,638 677	959 597 250	225 341 111	441 400 227	300 300 89	0 0 0	000	2,125 1,638 677
Test and Evaluation Organizations 46th Test Wing	Mar 96	4,722	4,722	3,212	89	1,120	322	0	0	4,722
Government Furnished Property: Not Applicable	: Not Applicab	le								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				11,609 1,806 3,212	6,718 677 68	1,166 1068 1,120	250 889 322			19,743 4.440 4,722
Total Project				16,627	7,463	3,354	1,461			28,905
Project 3133			P	Page 7 of 12 Pages	iges		EX	Exhibit R-3 (PE 0604602F)	0604602F)	
				965						

RDT&E BUDGET II	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	TION SE	HEET (R	-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 5 - Engineering and Manufacturing I	Development	ent	PE N.	PE NUMBER AND TITLE 0604602F Arma	пте rmamen	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	ce Devel	opment		PROJECT 5613
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
5613 Container Design Retrieval System	137	129	136	135	140	138	140	144	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(U) A. Mission Description and Budget Item Ju			l							
Containers: This project funds the operation of the tri-service Container Design Retrieval System (CDRS). This system includes the maintenance of a containe preclude proliferation and duplication of munitions containers. It also supports organic container design, prototyping, and testing capabilities. This project's ef limited to the study, design, and development of container systems. Any procurement will be performed and funded by the applicable weapons system project.	til-service Container Design Retrieval System (CDRS). This system includes the maintenance of a container database to s containers. It also supports organic container design, prototyping, and testing capabilities. This project's efforts are ontainer systems. Any procurement will be performed and funded by the applicable weapons system project.	ntainer Desi, t also suppor 1s. Any proc	gn Retrieval ts organic α urement wil	l System (CI ontainer desi Il be perforn	ORS). This ign, prototypied and fund	system including, and test led by the app	les the main ing capabilit plicable wea	itenance of a ties. This pr ipons system	ı container d oject's effor ı project.	atabase to
 (U) FY 1996 (\$ in Thousands): (U) \$5 Initiate/continue/complete design/development of various CDRS projects, including containers and fixtures for AGM-142 components, Multi-Spectral Aircraft Decoy, Mobile Aircraft Arresting System, and Special Projects. (U) \$5 (U) \$127 (U) \$127 (U) \$217 (U) \$4197 (\$ in Thousands):	ete design/development of various CD, Mobile Aircraft Arresting System, an expertise, management, and technic: unitions Dispenser (WCMD), and JPF: CDRS data base and support service. te design/development of various CD in expertise, management, and technic: CDRS data base and support service.	elopment of and Arresting anagement, a snser (WCMI ase and supp alopment of anagement, a are and supp	various CDF System, an and technica D), and JPF. ort service. warious CDF and technical ort service.	AS projects, d Special Pr I support to As projects, I support to I support to I support to I support to	including cc ojects. programs, st including a 1 programs su	ntainers and tch as AIM-5 nodular mob ch as AIM-9	fixtures for 0X, AMRA/	AGM-142 c AM, AGM-: ier system, a M, AGM-14	components, 142, JDAM, 42, JDAM, 4	Multi- AGM- rojects. \GM-
Project 5613			Page 8 of 12 Pages	12 Pages			Exhib	Exhibit R-2 (PE 0604602F))604602F)	
			996							

RI	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Armament Ordnance Development	PROJECT elopment 5613
(U) FY 1998 (\$ in Thousands): - (U) \$5 Initiate/co - (U) \$5 Provide co 130, and V - (U) \$126 Manage at - (U) \$136 Total	ntinue/compi ontainer desig WCMD. nd operate th	Initiate/continue/complete design/development of various CDRS projects, including a modular mobility container system, and special projects. Provide container design expertise, management, and technical support to programs such as AIM-9X, AMRAAM, AGM-142, JDAM, AGM-130, and WCMD. Manage and operate the CDRS data base and support service. Total	ainer system, and special projects. AAM, AGM-142, JDAM, AGM-
(U) FY 1999 (\$ in Thousands): - (U) \$5 Initiate/co - (U) \$5 Provide co - (U) \$125 Manage a - (U) \$135 Total	<u>Thousands):</u> Initiate/continue/complete design/development of various CD Provide container design expertise, management, and technics 130, and WCMD. Manage and operate the CDRS data base and support service. Total	<u>rousands):</u> Initiate/continue/complete design/development of various CDRS projects, including a modular mobility container system, and special projects. Provide container design expertise, management, and technical support to programs such as AIM-9X, AMRAAM, AGM-142, JDAM, AGM-130, and WCMD. Manage and operate the CDRS data base and support service. Total	ainer system, and special projects. AAM, AGM-142, JDAM, AGM-
Project 5613	Pa	Page 9 of 12 Pages Exh	Exhibit R-2 (PE 0604602F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	R-2 Exhib	£	DATE	1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604602F Arma	D тпе Armament	Ordnance D	PEDIGER AND TITLE 0604602F Armament Ordnance Development	PROJECT THE SEASON TO SEASON THE
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB	FY 1997 133 133 4	FY 1998 136 136	FY 1999 137 -2 135	Total Cost 546 546 546 -7 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
 (U) Change Summary Explanation: Funding: FY96/97 reduced for Congressional General Reductions, SBIR, and Bosnia. Schedule: Not Applicable Technical: Not Applicable (U) C. Other Program Funding Summary (\$\mathbb{S}\$ in Thousands): Not Applicable 	, and Bosnia.				
Related Activities: There is no other unnecessary duplication of effort within the Air Force or Department of Defense. (U) D. Schedule Profile: Not Applicable	Air Force or Depi	artment of Defen	Se.		
Project 5613	Page 10 of 12 Pages 968			Exhibit R-2 (PE 0604602F)	02F)

RDT8	RDT&E PROGRAM E	SRAM EL	EMENT/F	LEMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	OWN (R-	(£)	DATE	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	and Manu		Development	nt.	PE NUMBER AN 0604602F	PE NUMBER AND TITLE 0604602F Arma	ment Ordr	D TITLE Armament Ordnance Development	relopmen		PROJECT 5613
(U) A. Project Cost Breakdown (\$ in Thousa	3reakdown (\$ in Thousands)	<u>ছ</u>								
				FY 1996		FY 1997	FY 1998	FY 1999	61		-
	tion nt			4 1.	7 7 33	10	12 50	<u> </u>	15 49		
(U) Contractor Support (U) Mission Support (U) Test Support (U) Total	₩.			, 2 113	48 29 0 137	50 20 0 129	50 24 0 136	45 26 0 0 135	45 26 0 35		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ition History	y and Planning	<u>Information</u>	(\$ in Thousan	(Spi						
Performing Organizations:	tions:										
Contractor or Co Government Me Performing or	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	<u>FY 1999</u>	Budget to Complete	Total Program
Product Development Organizations N/A	<u>)rganizations</u>										
Support and Management Organizations Sverdrup (TEAS) Oct ASC/YHS Other	nt Organizati	<u>ions</u> Oct 93	TBD TBD TBD	TBD TBD TBD	1,455 568 451	0 23 114	0 24 105	0 26 110	0 27 108	Continuing Continuing Continuing	1,455 668 888
Test and Evaluation Organizations 46th Test Wing	ganizations		TBD	TBD	190	0	0	0	0	Continuing	190
Project 5613				Pas	Page 11 of 12 Pages	sası		Exh	Exhibit R-3 (PE 0604602F)	0604602F)	
					;						

ing and Manufacturing Development Ocontinued (S in Thousands) wished Property: Not Applicable Development and Management 2,474 137 129 136 135 135 134 137 129 136 133 2,664 137 129 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 133 136 136	JT&E PROGRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	EAKDO	WN (R-3)		DATE Februa	February 1997
get Acquisition History and Planning Information Continued (S in Thousands) I Furnished Property: Not Applicable 2,474 137 129 136 135 3 dots Development port and Management and Evaluation 2,664 137 129 136 135 3 if and Evaluation 2,664 137 129 136 135 3	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER A 0604602F	ND TITLE Armame	ent Ordnar	ıce Deve	lopment	PROJECT 5613
t Purnished Property: Not Applicable duct Davelopment 2,474 137 129 136 135 3 3 t and Evaluation 2,664 137 129 136 135 3 3 t and Evaluation 2,664 137 129 136 135 3 3 t and Evaluation 2,664 137 129 136 135 3 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	(U) B. Budget Acquisition History and Planning Information Continu	ued (\$ in Thousands)					
### duct Development 2,474	Government Furnished Property: Not Applicable						
2,664 137 129 136 135 3 Page 12 of 12 Pages Exhibit R-3 (PE 0604602F)	Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	2,474	137	129	136	135	3,011
Page 12 of 12 Pages	Total Project	2,664	137	129	136	135	3,201
rake 12 0/12 rakes	Project 5613	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1			<u>:</u> !		
		rage 12 0/ 12 rages 970			Exhibi	It K-3 (PE 06046	02F)

PE NUMBER: 0604604F

UNCLASSIFIED

PE TITLE: Submunitions

RDT&E BUDGET IT	EM JUS	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SI	HEET (R	1-2 Exhi	bit)		DATE	Fohriian, 4007	707
BUDGET ACTIVITY								2	Juany IS	121
ing and Manufacturing	Development	ent	090	PE NUMBER AND TITLE 0604604F Submunitions	TITLE Submunit	ions			T 63	РRОЈЕСТ 3166
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3166 Joint Smart Munition Test and Evaluation Program	4,843	4,769	4,956	4,902	5,006	5,049	5,085	5,050	5,050 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Project 3166 is a joint US Air Force/US Army project office which provides RDT&E support for developmental smart munitions acquisition programs in Engineering vehicle targets and Theater Air Defense units by determining performance against actual foreign targets in realistic environments and in the presence of countermeasures. Data gathered is used to meet developmental decision points requiring highly reliable, realistic performance data. The project is a major focal point for joint Air Force and Army target signature collection and dissemination for development and exploitation purposes. This PE provides support for smart munitions and Manufacturing Development. Project 3166 evaluates developmental smart munitions and related emerging technology with applications against mobile ground test and evaluation (T&E) activities including T&E support for programs in engineering and manufacturing development. Because it is a continuing RDT&E activity, this project is funded in BA 5.

(U) FY 1996 (\$ in Thousands):

Start Phase IV of the weapon effectiveness evaluation	Develop models and simulation tools to support electronic engagement
(U) \$1,089	(U) \$300
ı	I

Develop models and simulation tools to support electronic engagement simulations (D) \$600

(U) FY 1997 (\$ in Thousands):

Continue Phase IV of the weapon effectiveness evaluation	
Continue	
- (U) \$1,096	

Develop models and simulation tools to support electronic engagement simulations $\frac{2300}{2}$ (U) \$700

Project 3166

Page 1 of 5 Pages

Exhibit R-2 (PE 0604604F)

Continue maintenance and expansion of vulnerability/lethality and signature databases

Plan and conduct Captive Flight Tests for signature collection and seeker/sensor evaluations and algorithm development (U) \$1,148

Conduct advanced warhead effectiveness evaluation, and Continue vulnerability analysis of SEAD and TMD targets (U) \$1,706 (U) \$4,843

Fotal

Plan and conduct Captive Flight Tests and signature collection for seeker/sensor evaluations and algorithm development Continue maintenance and expansion of vulnerability/lethality and signature databases (U) \$1,200

Conduct advanced warhead effectiveness evaluation (U) \$700

Continue vulnerability analysis of Enemy Air Defense (SEAD), and Theater Missile Defense (TMD) targets

Total (U) \$773 (U) \$4,769

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	R-2 Exhib	it) DATE	TE February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604604F Subn	PE NUMBER AND TITLE 0604604F Submunitions	ıns		РРОЈЕСТ 3166
 (U) FY 1998 (\$ in Thousands). (U) \$1,231 Continue Phase IV of the weapon effectiveness evaluation (U) \$300 Develop models and simulation tools to support electronic engagement simulations (U) \$700 Continue maintenance and expansion of vulnerability/lethality and signature database (U) \$1,200 Plan and conduct captive carry flight tests and signature collection for seeker/sensor evaluations and algorithm development (U) \$750 Conduct advanced warhead effectiveness evaluations (U) \$775 Continue vulnerability analysis of Suppression of Enemy Air Defense (SEAD) and Theater Missile Defense (TMD) targets (U) \$4,956 Total 	ation onic engagement : /lethality and signs are collection for ss my Air Defense (\$	simulations ature database eeker/sensor eval 3EAD) and Theat	uations and algorithm deve	elopment) targets	
 (U) FY 1999 (\$\frac{x}\$ in Thousands): (U) \$1,177 Initiate Phase V of the weapon effectiveness evaluation (U) \$300 Initiate advanced development of models and simulation tools to support electronic engagement simulations (U) \$700 Continue maintenance and expansion of vulnerability/lethality and signature database (U) \$1,200 Plan and conduct captive carry flight tests and signature collection for seeker/sensor evaluations and algorithm development (U) \$750 Conduct advanced warhead effectiveness evaluations (U) \$775 Continue vulnerability analysis of Suppression of Enemy Air Defense (SEAD) and Theater Missile Defense (TMD) targets (U) \$4,902 Total 	on fon tools to suppor Acthality and signare re collection for se my Air Defense (\$	t electronic enga _l nture database eker/sensor evalı 3EAD) and Theat	gement simulations uations and algorithm deve er Missile Defense (TMD)	elopment) targets	
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. S.D.D.	FY 1997 4,873 4,873	FY 1998 4,997	<u>FY 1999</u> 4,948		
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY1998 PB 4,843	4,769	-41 4,956	-46 4,902		
(U) Change Summary Explanation: Project 3166	Page 2 of 5 Pages		Exhibit R-	Exhibit R-2 (PE 0604604F)	:

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604604F Submunitions	PROJECT 3166
Funding: Minor inflation and O&M adjustments in FY96 - FY99.		
Schedule: No change.		
Technical: No change.		
(U) C. Other Program Funding Summary (\$ in Thousands): None		
(U) D. Schedule Profile: Not applicable as this is a continuing test effort (target/warhead evaluation/analysis, signature tests, captive flight tests, are ongoning throughout the year and continue through the FVDP).	warhead evaluation/analysis, signature tests, captive flight tests, are c	ngoning throughout
Project 3166	Page 3 of 5 Pages Exhibit R-2 (PE 0604604F)	4604F)
-	072	

RE	RDT&E PROGRAM	3RAM EL		EMENT/PROJECT	COSTB	REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	260
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	ıfacturing	Developme	ent	PE NUMBER AN 0604604F	PE NUMBER AND TITLE 0604604F Subm	D TITLE Submunitions			- co	РРОЈЕСТ 3166
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown (S in Thousand	[8]	FY 1996		FY 1997	FY 1998	FY 1999	Č.		
(U) Program Support (U) Target Support (U) Warhead Range Operations (U) Captive Flight Tests (U) Database Support (Inc TABII (U) Vulnerability/Effectiveness A (U) Warhead Evaluation (U) Target Signature Tests (U) Models and Simulation Tools (U) Total	Program Support Target Support Warhead Range Operations Captive Flight Tests Database Support (Inc TABILS) Vulnerability/Effectiveness Analysis Warhead Evaluation Target Signature Tests Models and Simulation Tools	s) alysis		1,027 683 280 230 573 573 450 800 300 4,843	3000334	919 685 315 250 440 600 460 800 300 4,769	1,041 700 315 250 500 600 450 800 300 4,956	1,035 700 300 250 590 590 427 800 300 4,902	N 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	cquisition Histor	y and Plannin	g Information	(S in Thousan	ds)						
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	nizations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 199 <u>8</u>	FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations N/A	ent Organization	δI									
Support and Management Organizations Sverdrup C/CIF 11 ANSTEC C/FFP 10 46 OG/OGML N/A Jan	gement <u>Organiza</u> C/CIF C/FFP N/A	<u>tions</u> 11 Jun 96 10 Apr 95 Jan 98	N/A N/A A/A	N/A N/A N/A	4,972 579 3,830	1,375 211 511	1,478 245 433	1,523 263 443	1,602 278 464	Cont	10,950 1,576 5,681
Project 3166				Pa	Page 4 of 5 Pages	ies		Exh	Exhibit R-3 (PE 0604604F)	0604604F)	

RDT&E PROGRAM E	OGRAM EI	LEMENT/PROJECT	PROJEC		REAKD	COST BREAKDOWN (R-3)	3)	DATE	Fobras 4007	700
BUDGET ACTIVITY 5 - Engineering and Manufacturing	anufacturing	Development	ent	PE NUMBER AN 06046P	PE NUMBER AND TITLE 0604604F Subm	ΣΤΙΤΙΕ Submunitions			entuary .	PROJECT 3166
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	pe Award or Obligation	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
Test and Evaluation Organizations 46 OG/OGML	<u>suc</u>			59,457	2,746	2,613	2,727	2,558	Cont	70,101
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation TOTAL	ent			9,381 59,457 68,838	2,097 2,746 4,843	2,156 2,613 4,769	0 2,229 2,727 4,956	2,344 2,558 4,902	Cont Cont	0 18,207 70,101 88,308
Project 3166			ł	Page 5 of 5 Pages	es		Expi	Exhibit R-3 (PF 0604604F)	0604604F)	

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PE NUMBER: 0604617F

UNCLASSIFIED

PE TITLE: Air Base Operability

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	2-2 Exhi	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing C	g Development	ent	PE NI 060	PE NUMBER AND TITLE 0604617F Air B	τιτιε vir Base (PE NUMBER AND TITLE 0604617F Air Base Operability	ły			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2895 Air Base Operability	8,881	2,781	1,424	2,553	2,626	2,662	0	0	0	0 Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

efforts, and special operations throughout the world. ABO capabilities being developed include. Joint Service (Army-led) test, evaluation and acquisition of protective provide beddown for aircraft, support equipment, and forces at both main operating bases and contingency operating locations, which may have only a runway and a water source. The need for ABO was dramatically illustrated during DESERT SHIELD/DESERT STORM/PROVIDE COMFORT, and other global contingencies over the past 5 years. Lighter-weight rapidly deployable facilities and equipment have become essential in supporting contingencies for security, base defense, relief deployable system to repair/reinforce runways; a deployable fire protection system to detect and extinguish aircraft, and Bare Base simulation and studies to support Operability (ABO) integrates capabilities to rapidly deploy, and defend and sustain air base operations, which are prerequisites to establishing air superiority. ABO vehicles to be used by Air Force security police, civil engineers, and explosive ordnance disposal technicians for air base defense and reconnaissance missions; a This program is in budget activity 5 - Research, Development, Test and Evaluation because it supports development of systems for air base operations. Air Base rapid deployment and beddown of Harvest Falcon/Harvest Eagle assets.

Page 1 of 7 Pages

Exhibit R-2 (PE 0604617F)

RDT&E	BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Manufacturing Development	PE NUMBER AND TITLE 0604617F Air Base Operability	
(U) FY 1996 (\$ in Thousands): - (U) \$1,341 Complete - (U) \$676 Complete - (U) \$735 Continue? - (U) \$779 I nitiated I - (U) \$5,292 Continue? - (U) \$5,881 TOTAL	Completed Engineering and Manufacturing Development (EMD) for Up-Armored H Wheeled Vehicles (UA-HHV) and support Army production effort. Completed EMD for Deployable Fire Protection System (DFPS). Continued Repair Quality Criteria (RQC) modeling for rapid runway repair analysis. I nitiated EMD via MIPR to Army for Rapid Ordnance Removal System (RORS). Performed ECP for Deployable Pavement Repair System Continued other technical support.	Completed Engineering and Manufacturing Development (EMD) for Up-Armored Heavy High Mobility Multi-Purpose Wheeled Vehicles (UA-HHV) and support Army production effort. Completed EMD for Deployable Fire Protection System (DFPS). Continued Repair Quality Criteria (RQC) modeling for rapid runway repair analysis. I nitiated EMD via MIPR to Army for Rapid Ordnance Removal System (RORS). Performed ECP for Deployable Pavement Repair System Continued other technical support.	Multi-Purpose
(U) FY 1997 (\$ in Thousands): - (U) \$180 Complete - (U) \$430 Continue - (U) \$1,350 Initiate EN - (U) \$821 Continue - (U) \$2,781 TOTAL	<u>lousands):</u> Complete RQC modeling for rapid runway repair analysis. Continue EMD for RORS. Initiate EMD for Deployable Power Generation and Distribution System (DPGDS). Continue other technical support.	alysis. Distribution System (DPGDS).	
(U) FY 1998 (\$ in Thousands): - (U) \$300 Initiate EN - (U) \$300 Continue - (U) \$824 Continue - (U) \$1,424 TOTAL	tousands): Initiate EMD for Medium Shelters/ECUs. Continue EMD for DPGDS. Continue other technical support. TOTAL		
(U) FY 1999 (\$ in Thousands): - (U) \$300 Complete - (U) \$300 Continue Ra - (U) \$700 Initiate Ra - (U) \$200 Initiate EN - (U) \$1,053 Continue Can (U) \$2,553 TOTAL	complete EMD for Medium Shelters/ECUs. Continue EMD for DPGDS. Initiate Rapid Airfield Stabilization EMD Study. Initiate EMD for Lightweight Landing Mats Continue other technical support TOTAL		
		Page 2 of 7 Pages	Exhibit R-2 (PE 0604617F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION	SHEET (R-2 Exhib	ŧ.	DATE	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604617F Air B	PE NUMBER AND TITLE 0604617F Air Base Operability	erability	rebruary 1997	
(U) B. Program Change Summary (\$ in Thousands)						
	FY 1996 9,692 9,692	FY 1997 2,926 2,926	FY 1998 1,435	FY 1999 2,577	Total <u>Cost</u> Cont	
(U) Adjustments to Appropriated Value a. Congressional Gen Reductions b. SBIR c. Omnibus or Above Threshold Reprogramming	-190 -226 -08	-74				
d. Below Threshold Reprogramming e. Rescissions	-238 -59	ů				
(U) Current Budget Submit/FY98 PB	8,881	2,781	-11 1,424	-24 2,553	Cont	
(U) Change Summary Explanation:						

ange Summary Explanation:

Funding: Adjustments to FY96 were \$190K for Congressional reductions, \$226K for SBIR, remaining Reprogramming, and Rescissions funded Bosnia and F-16

Jordanian bill, plus other smaller cuts, and in FY97, \$77K for Congressional General Reductions/recission, and \$68K for SBIR.

Schedule: No change.

Technical: No change.

Page 3 of 7 Pages

Exhibit R-2 (PE 0604617F)

RDT&E BUDGET ITE	EM JUS	TIFICAT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EET (R	-2 Exhil	oit)		DATE Feb	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing De	Development	ent	PE NU	PE NUMBER AND TITLE O604617F Air Base	ase	Operability	Į,			
(U) C. Other Program Funding Summary (\$ in 1	n Thousands)									
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To	Total
(U) Other Procurement, AF, Other Base Maintenance and Support Program:										
BP 82, Vehicles (0207588F)	3,347	8,987	73,274	0	0	0	0	0	0	82,608
BP 83, Communications (0207588F)	4,497	0	0	0	0	0	0	0	0	4,497
BP 84, Explosive Ordnance Disposal (0208028F)	0	0	1,530	2,410	200 3	356	0	0	0	4,796
BP 84, Deployable Favmnt Kepair Sys (U208028F)	2,049	7,288	-	> •	> 0	~	0 66.	0	0 0	4,337
BP 84. Deployable Fire Protection Sys (0208028F)	871	1.393	-	o c	9 0	9 0	1,723	1,723	>	3,440
BP 84, Air Base Utility Systems (0208028F)	0	0	0	350	1.025	0	0	0	0	1.375
BP84, Emergency Airfld Lighting Sys (0208028F)	1,380	0	0	0	0	0	0	0	0	1,380
BP84 Shelters (PE0208028F)	0	0	200	006	1,500	0	0	0	0	2,600
BP84 Shelters (PE0208031F)	0	0	0	3,200	10,689	10,930	5,776	0	0	30,595
Deployable Power Gen/Dist System (0208028F)	0	0	2,484	2,851	0	0	0	0	0	5,335
Deployable Power Gen/Dist System (0208031F)	0	0	0	0	000,6	000,6	9,000	9,000	Cont	36,000
			Page 4 of 7 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0604617F)	304617F)	

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RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604617F Air Base Operability	
(U) D. Schedule Profile		
$\frac{\text{FY } 1996}{1 2 3 4 1}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	FY 1999 1 2 3 4
UP-ARMORED HEAVY HIGH MOBILITY MULTI-PURPOSE WHEELED VEHICLES - Complete EMD - Milestone III decision - Begin Production DEPLOYABLE FIRE PROTECT SYS - Initiate EMD (qualification Testing) - Begin Production DEPLOYABLE FIRE PROTECT SYS - Complete EMD - Milestone III Decision - Begin Production MEDIUM SHEL TERS/ECUs - Milestone II Decision - Initiate EMD - Milestone II Decision - Milestone II Decision - Milestone II Decision - Milestone III Decision - Milestone II Decision - Initiate EMD - LIGHTWEIGHT LANDING MATS - Milestone II Decision - Initiate EMD	× × × × × × × × ×	*
Pas	Page 5 of 7 Pages Exhibit F	Exhibit R-2 (PE 0604617F)

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RD	RDT&E PROGRAM EL	GRAM EL	EMENT/PROJECT		COST B	COST BREAKDOWN (R-3)	WN (R-	3)	DATE	Fohrian, 1007	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Man	ufacturing	Development		PE NUMBER AND TITLE 0604617F Air B	RAND TITLE	D TITLE Air Base Operability	bility		coldaly.	
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(sp								
				FY 1996		FY 1997	FY 1998	FY 1999	<u>6</u> 1		
(U) Engineering an (U) Development/	Engineering and Manufacturing Development Development/Operational Test and Evaluation	ig Development t and Evaluatior	(EMD)	1,696		550					
(U) Other Government Ag	Project SETA Support Other Government Agencies			2,693		410 150	530	520 200	Q Q		
	iipment pport			125 0		300 20		200	c		
(U) Technical Support (U) Management Support	oport Support			395		821	70	1,053	e က ေ		
(U) Total				8,881		2,781	1,424	2,553	Σ ω		
(U) B. Budget Acquisition History and Planning	equisition Histor	ry and Plannin	g Information (\$ in Thousands)	in Thousand	(ৱ						
Performing Organizations:	nizations:										
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total						
Pertorming <u>Activity</u>	or Funding <u>Vehicle</u>	Obligation <u>Date</u>	Activity <u>EAC</u>	Office <u>EAC</u>	Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations UA-HHV-Army MIPR	ent Organizations MIPR	<u>s</u> Jun 95	1,985	1,985	405	1,341	0	0	0	0	1,746
DFPS-Keco	FFP	Sep 95	901	901	552	929	c	c	c	ć	
DPRS-Entwistle	FPIF	Dec 92	5,532	5,532	5,485	47	0	0	0	> c	5 532
RORS-Army Repair Quality Criteria	MIPR AF	May 96 Multiple	1,400 5,723	1,400 5,723	0 4,268	735 790	430 180	00	00	00	1,165
	Vigeno										
				Page	Page 6 of 7 Pages	Si		ПX	Exhibit R-3 (PE 0604617F)	0604617F)	
					080]

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RD	RDT&E PROGRAM EL	SRAM EL	EMENT/PROJECT	SJECT (COST BREAKDOWN (R-3)	EAKDO	WN (R-	3	DATE	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	g and Manu		Development		PE NUMBER AND TITLE 0604617F Air B	AND TITLE F Air Ba	DTITLE Air Base Operability	oility			
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to	Budget	Budget			Budget to	Total
Activity	Vehicle	Date	EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Medium	SETA	Jun 97	170	770	0	0	0	300	300	0	009
Shelters/ECUs											
Deployable	FFP	Feb 97	2,000	2,000	0	0	1,350	300	300	0	1,950
Power											
Rapid Airfield	TBD	TBD	2,000	2,000	0	0	0	0	700	1,300	2,000
Stabilization Stdy Lightweight	TRD	TRD	009	009	C	C	C	C	200	400	009
Landing Mats)				•	•	•	•)
Sub-Total					10,710	3,589	1,960	009	1,500	1,700	20,059
Support and Management Organizations	ement Organizat	ione									
Various	Various	Various	0	0	4,479	5,292	821	824	1,053	3,588	16,057
Test and Evaluation Organizations	Organizations										
N/A											
(U) B. Budget Acquisition History and Plannir	ruisition History	v and Plannin	ng Information Continued (\$ in Thousands)	ntinued (S in	(Thousands)						
Subtotal Product Development	velopment				10,710	3,589	1,960	009	1,500	1,700	20,029
Subtotal Support and Management	d Management				4,479	5,292	821	824	1,053	3,588	16,057
Total Project					15,189	8,881	2,781	1,424	2,553	5,288	36,116
				Dag	Dana 7 of 7 Danas			Ì	ihit D.3 (DE	E-bibit D-3 (DE 0604617E)	
				7 7	2 / 0/ / 4 485				1011111	1101000	

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PE NUMBER: 0604618F

UNCLASSIFIED

PE TITLE: Joint Direct Attack Munitions

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE FeI	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ent	PE NI 0 0 0	PE NUMBER AND TITLE 0604618F Joint	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munitions	ct Attack	Munition	JS.	T 69	РРОЈЕСТ 3890
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3890 Joint Direct Attack Munitions	80,519	36,993	19,553	12,450	1,445	1,225	1,664	0	0	300,156
Quantity of RDT&E Articles*	14(\$388)	274(\$7596)	4(\$388) 274(\$7596) 218(\$6043)	0	0	0	0	0	0	506(14027)

A. Mission Description and Budget Item Justification 9

Manufacturing Development (EMD) effort. EMD Phase I emphasized competitive design and manufacturing processes. This phase completed 10 Oct 95. EMD Phase JDAM is an Air Force and Navy munitions program to correct these shortfalls, with the Air Force as the executive service. JDAM will upgrade the existing inventory navigation system (INS/GPS). JDAM will provide an accurate (13 meters) adverse weather capability. JDAM will initially be integrated with the B-52H, B-2, B-1B of general purpose bombs (Mk-84, BLU-109, and Mk-83/BLU-110) by integrating them with a guidance kit consisting of a global positioning system aided inertial Desert Storm confirmed the need for a more accurate weapon delivery capability in adverse weather conditions from medium/high altitudes. Failure to satisfy this because of the focus on devising an affordable design and manufacturing process. JDAM is an Air Force ACAT ID program. JDAM Low Rate Initial Production Il emphasizes full scale hardware build and flight test to verify system performance and will support OT&E. This program is funded in Budget Activity 5, EMD, requirement will allow the enemy to continue to take advantage of the sanctuary of weather and/or prevent US air power from prosecuting a conflict on its terms. and F/A-18C/D aircraft with follow-on integration on the F-16, F-15E, F-22, AV-8B and other aircraft. JDAM development is a two-phased Engineering and (LRIP) will begin in FY97.

(U) FY 1996 (\$ in Thousands):

Began JDAM Development Test and Evaluation (DT&E) activities including B-52 Instrumented Measurement Vehicle testing, safe separation flight tests on the FA-18, F-16, B-52, and B-1, ground margin testing and related mission planning activities. Total various government development and test organizations. (U) \$11,282

(U) \$80,519

* These amounts reflect assets by delivery year and can not be reconciled to the dollar amounts (incremental funding) shown in any one year.

Exhibit R-2 (PE 0604618F)

Page 1 of 6 Pages

Project 3890

RD	RDT&E BUDGET ITEM JUSTIFICATIOI	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munitions	PROJECT 3890
(U) FY 1997 (\$ in Thousands) - (U) \$13,617 Continue - (U) \$4,407 Continue developm - (U) \$18,969 Conduct - (U) \$36,993 Total	Inousands): Continue EMD prime contractor activities to include delivery of Guided Test Vehic continue the improved GPS guidance and Anti-Jam demonstrations. Continue Support and Management tasks to define and coordinate the program acti development and test organizations. Conduct guided flight tests for DT/OT&E on the FA-18, F-16, B-1, B-2, and B-52. Total	<u>rousands)</u> . Continue EMD prime contractor activities to include delivery of Guided Test Vehicles (GTVs) and ground test equipment for DT/OT&E and continue EMD prime contractor and Anti-Jam demonstrations. Continue Support and Management tasks to define and coordinate the program activities of the prime contractor and various government development and test organizations. Conduct guided flight tests for DT/OT&E on the FA-18, F-16, B-1, B-2, and B-52.	equipment for DT/OT&E and r and various government
(U) FY 1998 (\$ in Thousands): - (U) \$11,590 Complete - (U) \$2,412 Continue developm - (U) \$5,551 Complett tests. - (U) \$19,553 Total	<u>Thousands</u>): Complete EMD prime contractor activities for Group 1 aircraft. Initiate Group 2/F-22 integration and testing. Continue Support and Management tasks to define and coordinate the program activities of the prime contract development and test organizations. Complete Group 1 aircraft flight testing and improved GPS guidance and Anti-Jam demonstrations. Continutests.	Complete EMD prime contractor activities for Group 1 aircraft. Initiate Group 2/F-22 integration and testing. Continue Support and Management tasks to define and coordinate the program activities of the prime contractor and various government development and test organizations. Complete Group 1 aircraft flight testing and improved GPS guidance and Anti-Jam demonstrations. Continue Group 2 aircraft guided flight tests.	r and various government Group 2 aircraft guided flight
(U) FY 1999 (\$ in Thousands): (U) \$7,017 Continue (U) \$1,155 Continue developm (U) \$4,278 Continue (U) \$12,450 Total	Thousands): Continue EMD prime contractor & Group 2/F-22 integration and testing. Continue Support and Management tasks to define and coordinate the pry development and test organizations. Continue Group 2 aircraft guided flight tests. Total	nousands): Continue EMD prime contractor & Group 2/F-22 integration and testing. Continue Support and Management tasks to define and coordinate the program activities of the prime contractor and various government development and test organizations. Continue Group 2 aircraft guided flight tests. Total	r and various government
Project 3890	Pa	Page 2 of 6 Pages Exhibi	Exhibit R-2 (PE 0604618F)
		700	

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RDT&E BUDGET ITEM JUS	LIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibi	Œ	DATE Febru	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ınt	PE NUMBER AND TITLE 0604618F Joint	PE NUMBER AND TITLE 0604618F Joint Direct Attack Munitions	Attack Mun		PROJECT 3890
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget	FY 1996 85,916	FY 1997 38,636	FY 1998 34,717	FY 1999 24,567	Total <u>Cost</u> 337,340	
(U) Appropriated Value (U) Adjustments to Appropriated Value	92,161	38,636				
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-1,825 -1,905 -945	-803 -804				
d. Below Threshold Reprogramming e. Rescissions	-4559 -2408	-36				
(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 PB	80,519	36,993	-15,164 19,553	-12,117 12,450	300,156	
(U) Change Summary Explanation: Funding: FY98: \$9.0M reduction due to revised estimate, \$6.0M reduction in JDAM PIP seeker technologies. FY99: \$12.0M reduction in JDAM PIP.	\$6.0M reduction	n in JDAM PIP s	eeker technologie	s;		
Schedule: No change in baseline effort. PIP seeker technology efforts have been deleted.	ology efforts hav	re been deleted.				
Technical: All new efforts to improve JDAM accuracy and anti-jam have been eliminated in FY98 & beyond.	d anti-jam have	been eliminated i	n FY98 & beyon	ġ.		
Project 3890	Pag	Page 3 of 6 Pages		Ш	Exhibit R-2 (PE 0604618F)	1618F)

RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	FION SH	IEET (R	-2 Exhib	oit)		DATE	Fohriism, 1007	2
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ınt	PE NU 060	PE NUMBER AND TITLE 0604618F Joint	D TITLE Joint Direct Attack Munitions	t Attack	Munition	1	S E E	3890
(U) C. Other Frogram Funding Summary (\$ in Thousands) FY 1996 (U) Appropriation: Ammunition Procurement,	Thousands) FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total <u>Cost</u>
Air Force, Program Title: JDAM, PE 27583F (U) Ammunition Procurement (U) Quantity (Kits) (U) SEEK EAGLE	0	23,010 937	61,002 2,673 305	62,202	143,207 6,325	233,114	223,789 10,617	218,020 10,592	375,798 18,114	1,340,143 62,000 305
(U) D. Schedule Profile										
	FY 1996 2 3	4	1 2	$\frac{\text{FY } 1997}{2}$	4	FY 1998 2 3	%] £	-	FY 1999 2 3	4
(U) DT&E/TECHEVAL (2,000)lb) Start X (U) LRIP (Lot 1) Option (U) IOT&E/OPEVAL (2,000 lb) Start (U) DT&E/TECHEVAL (2,000 lb) Finish (U) IOT&E/OPEVAL (2,000 lb) Finish				×	× :					
(U) Milestone III					×		×			······································
Project 3890			Page 4 of 6 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604618F)	304618F)	

RD.	RDT&E PROGRAM ELEMENT/PROJECT	SRAM EL	EMENT/P	ROJECT	COSTE	COST BREAKDOWN (R-3)	OWN (R-	3)	DATE Fe	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing	g and Manu	ıfacturing [Development	ınt	PE NUMBER AN 0604618F		Direct Atta	D TITLE Joint Direct Attack Munitions	ons	13 C	РРОЈЕСТ 3890
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousand	હ								
				FY 1996		FY 1997	FY 1998	FY 1999	٠.		
 (U) Primary Hardware Development (U) Test & Evaluation (U) Engineering & Prog Mgt Suppor (U) Total 	Primary Hardware Development Test & Evaluation Engineering & Prog Mgt Support Total	t t		64,916 11,282 4,321 80,519		13,617 18,969 4,407 36,993	11,590 5,551 2,412 19,553	7,017 4,278 1,155 12,450			
(U) B. Budget Acquisition History and Plann	quisition Histor	y and Planning	g Information	ing Information (\$ in Thousands)	(Sp						
Performing Organizations:	izations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Organizations Prime Contractors CPAF MDA (St Louis,	<u>nt Organizations</u> CPAF	Oct-95	162,187	162,187	71,219	61,216	8,217	11,590	7,017	2,928	162,187
MO) Lockheed/Martin (Orlando, FL; FY94/95 Only) Conceptual Studies	Various	Various	26,753	26,753	17,653	3,700	5,400	0	0	0	26,753
Project 3890				Pa	Page 5 of 6 Pages	Ses		Exh	Exhibit R-3 (PE 0604618F)	0604618F)	
					000						

RD	RDT&E PROGRAM EL	SRAM EL		EMENT/PROJECT	COSTE	REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ig and Manı	ıfacturing	Development	»nt	PE NUMBER AN 0604618F	PE NUMBER AND TITLE 0604618F Joint	D TITLE Joint Direct Attack Munitions	ack Munit			PROJECT 3890
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Engineering Spt. CPAF Oct TAMS Contractor CPAF Oct Program Office Various Var	tement Organizat CPAF CPAF Various	tions Oct-97 Oct-97 Various	12,326 4,269 17,917	12,326 4,269 17,917	8,900 2,736 10,204	804 246 3,271	1,439 640 2,328	999 319 1,094	184 328 643	0 0 377	12,326 4,269 17,917
Test and Evaluation Organizations Aircraft Various	1 Organizations Various	Various	27,322	27,322	16,587	527	3,045	3,616	2,534	1,013	27,322
Flight Testing Ground Testing	Various Various Various	Various Various Various	34,550 10,087 4,745	34,550 10,087 4,745	6,471 9,434 3,103	9,010 153 1,592	15,374 500 50	1,935 0 0	1,744 0 0	16 0 0	34,550 10,087 4,745
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment Id Management valuation				88,872 21,840 35,595	64,916 4,321 11,282	13,617 4,407 18,969	11,590 2,412 5,551	7,017 1,155 4,278	2,928 377 1,029	188,940 34,512 76,704
Total Project					146,307	80,519	36,993	19,553	12,450	4,334	300,156
Project 3890				P_{ℓ}	Page 6 of 6 Pages	ies		Ext	Exhibit R-3 (PE 0604618F)	0604618F)	

066

PE NUMBER: 0604703F
PE TITLE: Aeromedical Systems Development

	R	RDT&E BUDGET IT	EM JUS	TIFICA	IS NOIL	4FFT (R	ITEM JUSTIFICATION SHEET (R.2 Evhibit)	hif		DATE		
BUDGET ACTIVITY	1.						- LVIII	210		Fe	February 1997	397
5 - Engin	eering a	5 - Engineering and Manufacturing D	Development	ent	DE N	PE NUMBER AND TITLE 0604703F Aero	TITLE V eromedi	cal Syste	ms Dev	D TITLE Aeromedical Systems Development		
	COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2866 Aerom	redical/Casua	Aeromedical/Casualty Care Systems Dev	5,873	5,707	4,354	2,057	578	86	0	0	Continuing	Continuing
Quanti	Quantity of RDT&E Articles	Articles	0	0	0	0	0	0	0	0	0	0
(U) A. Mis This pro predictic medical	sion Descri	A. Mission Description and Budget Item Justification This program is in budget activity 5 - Research, Development, Test and Evaluation because it supports development of systems for treatment, evacuation, and prediction of wartime casualties in a conventional or non-conventional warfare environment. Tactical, strategic, and covert aeromedical evacuation systems and medical treatment equipment are developed and fielded to meet unique Air Force medical readiness and operational requirements.	Justification ch, Developme tional or non-cc and fielded to r	nt, Test and nventional v	Evaluation by varfare envii	oecause it su ronment. Ta	pports devel ctical, strate ess and oper	Justification rch, Test and Evaluation because it supports development of systems for tional or non-conventional warfare environment. Tactical, strategic, and covert aerom and fielded to meet unique Air Force medical readiness and operational requirements.	stems for tr ert aeromed rements.	reatment, eve	acuation, and ion systems a	pu
(U) <u>FX</u> - (U)	FY 1996 (\$ in 7 (U) \$157	(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$157 Transportable Blood Transshipment Center (TBTC) - Deliver initial production units Study module concents to summed 118 A D/SC	sshipment C	enter (TBTC	?) - Deliver i	nitial produ	ction units	lubom sprij	o concente t	I trouming of	73/4 V	
(n) -	(U) \$854	readiness reengineering initiative. Spinal Cord Injury Transport System (SCITS) - Develop acquisition strategy and obtain Milestone I/II decision approval to support tri-Service	itiative. ort System (SCITS) - De	evelop acqui	sition strateg	y and obtair	Milestone	/II decision	approval to	sar/so med support tri-S	iicai ervice
(U) -	(U) \$1,068	Traditions. The state of Attrition (THREAT) Model - Integrate ground attack model for Build 2 and complete integration testing, deliver Build 2 and	THREAT) N	lodel - Integ	rate ground	attack mode	for Build 2	and complet	e integratio	n testing, del	liver Build 2	and
(D) -	\$126	ucyclop inicical, protogical and chemical modules. Wartime Medical Planning System - Complete systems requirements analysis	System - C	cal modules.	tems require	mente analy						
(n) -	(U) \$1,470	Continuous/Intermittent Suction Unit (CISU) - Obtain Milestone II decision approval and begin Engineering and Manufacturing Development (EMD).	action Unit	CISU) - Ob	tain Milestor	ne II decision	sis. 1 approval ai	ıd begin Eng	ineering an	id Manufactı	ıring Develo	pment
99	(U) \$22 (U) \$1.105	Alternating Current Interface Unit (ACIU) - Complete production. Chemically Hardened Air Transportable Homital/Chemically	ice Unit (AC	IU) - Comp	lete producti	ion.				į		
, !		Development Test and Evaluation (DT&E).	Evaluation (DT&E)	&E).	AICHIICAIIY F	rardened Al	r Manageme	nt Plant (CH	ATH/CHAI	MP) - Comp	lete CHAMP	
<u> </u>	(U) \$31	Aeromedical Systems Analysis - Conduct foundation studies and analyses to support core aeromedical and casualty care and health care requirements in support of USAF/SG medical reengineering goals and objectives. (Continuing War Gaming and Electrical Conversion Conditioning Unit)	lysis - Cond USAF/SG r	uct foundation dedical reen	on studies ar gineering go	ıd analyses t als and obje	o support co	re aeromedic tinuing War	al and casu Gaming an	nalysis - Conduct foundation studies and analyses to support core aeromedical and casualty care and health care of USAF/SG medical reengineering goals and objectives. (Continuing War Gaming and Electrical Conversion	I health care Conversion	
(D) -	(U) \$552	Air Fleet	romedical E	vacuation Sł	nipsets (CRA	IF AES) - C	ontinue studi	es and suppo	ort analysis	for different	Aeromedical Evacuation Shipsets (CRAF AES) - Continue studies and support analysis for different airframes and	7
(n) -	(U) \$488	configurations. Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Survey.	s of Human	Systems Cer	iter, System	Program Of	fice. and Tec	tr thnical Engir	neering and	Managemen	to to the	3
(U) -	(U) \$5,873	contractor. TOTAL			•)		0	nin Guina	omognimu.	Hodding H	
Project 2866					Page 1 of 7 Pages	Pages			Exhibit	Exhibit R-2 (PE 0604703F)	304703F)	

	BUDGET ACTIVITY			
800gE 5 - Ei	ngineering a	5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development	PROJECT 2866
(E)	Γ-'	Thousands):		
I	(U) \$97	TBTC - Deliver production units and provide program/engineering support.	gineering support.	
l	(1) \$75	TUBEAT Model Tuttomate meeting to determine		:
1	(C) \$73 (C) \$40	TINCAL Model - Integrate increat, biological and chemical modules for Build 3, complete integration testing, and deliver Build 3. CISU - Complete operational testing and obtain Milestone III decision approval	ical modules for build 5, complete integration testing, III decision approval	and deliver Build 3.
1	(U) \$138	CHATH/CHAMP - Complete CHAMP operational test and evaluation (OT&E), meet initial operational capability, obtain Milestone III decision	of the control of the	lity, obtain Milestone III decision
		approval and exercise production option.		
ı	(U) \$2,705	CRAF-AES - Continue development of modifications of shipsets to support Air Mobility Command selected airframes and provide associated support equipment including the Parient Loading System (PLS)	shipsets to support Air Mobility Command selected air	rframes and provide associated
ı	(U) \$337	Theater Medical Information Program (TMIP) - Define, prototype and demonstrate a deployable medical information infrastructure; plan and	reselve. Tototype and demonstrate a deployable medical infort	nation infrastructure; plan and
I		initiate an acquisition strategy for the same. Approximative Systems Analysis - Conduct foundational studies and small sections.	the second and second and second and second and second	
		operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service material needs	tates and analyses, requirements analyses, and productivelines for potential system solutions to Air Force Me	st demonstrations to meet edical Service materiel needs
		identified through the Air Force Surgeon General's modernization planning process.	mization planning process.	
I	(U) \$1,698	Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Support	stem Program Office, and Technical Engineering and	l Management Support
ı	(U) \$5.707	contractor. TOTAL		
(I) EV	(II) EV 1008 (\$ in Thousands):	. Cond. V.		
1 (2)	(1) \$34	TBTC - Program/Fngineering Support for production item activation	a ectivation	
F	(U) \$2,140	SCITS - Continue EMD.		
i	(U) \$74	CHATH/CHAMP - Program/Engineering Support for production item activation.	duction item activation.	
i	(U) \$109	CRAF-AES - Support IOC, production decision, and Full Operational Capability (FOC) for the Patient Loading System	Operational Capability (FOC) for the Patient Loading	System
I	(U) \$1,997	TMIP-Air Force - Integrate and test a deployable medical information infrastructure; plan and initiate a deployment strategy for the same;	information infrastructure; plan and initiate a deployn	nent strategy for the same;
I	(U) NSP	investigate and plan for pre-planned product improvements. Aeromedical Systems Analysis - Conduct foundational studies and analyses, requirements analyses, and product demonstrations to meet	ts. Idies and analyses, requirements analyses, and produc	t demonstrations to meet
		operational needs, and define acquisition strategies and baselines for potential system solutions to Air Force Medical Service materiel needs	selines for potential system solutions to Air Force Me	dical Service materiel needs
1	(U) NSP	identitied through the Air Force Surgeon General's modernization planning process. (Continuing) Funded proportional efforts of Human Systems Center. System Program Office, and Technical Engineering and Management Survey	r Force Surgeon General's modernization planning process. (Continuing) rts of Human Systems Center. System Program Office, and Technical Engineering and	Management Support
	`	contractor.		managaman adposit
I	(U) \$4,354	TOTAL		
Project 2866	2866	Page 2	Page 2 of 7 Pages Exhibi	Exhibit R-2 (PE 0604703F)

RDT&E BUDGET ITEM JUSTIF	TEM JUSTIFICATION SHEET (R-2 Exhibit)	oit) DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604703F Aeromedic	PE NUMBER AND TITLE 0604703F Aeromedical Systems Development
(U) \$1,014 SCITS - Conduct OT&E. (U) \$1,014 SCITS - Conduct OT&E. (U) \$1,003 TMIP-AF - Excente medical information infrastructure deployment; integrate and tector and tector and strategies and strategies and strategies and strategies and strategies and baselines for potential system strategies and baselines for potential system strategies and baselines for potential system operational needs, and define acquisition strategies and baselines for potential system strategies and baselines for potential system strategies and baselines for potential system operational efforts of Human Systems Center, System Program Office, and contractor. (U) \$2,057 TOTAL	SCITS - Conduct OT&E. SCITS - Conduct OT&E. SCITS - Conduct OT&E. SCITS - Conduct OT&E. THIP-LHAMP - Program/Engineering support for production item activation. TMIP-AF - Execute medical information infrastructure deployment; integrate and test planned product demo operational needs, and define acquirements analyses, and product demo operational needs, and define acquirements and baselines for potential system solutions to Air Force Medical Sidentified through the Air Porce Surgeon General's modernization planning process. Funded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Managontractor. TOTAL	SCITS - Conduct OT&E. SCITS - Conduct OT&E. CHATHCHAMP - Program/Engineering support for production item activation. TMIP-AF - Exceute medical information infrastructure deployment; integrate and tests planned product imporvements. TMIP-AF - Exceute medical information infrastructure deployment; integrate and testines and analysis - Conduct forundational studies and analysis - Conduct for foundational tests, and define acquisition strategies and baselines for protential system solutions to Air Force Medical Service material needs identified through the Air Force Surgeon General's modernization planning process. Finded proportional efforts of Human Systems Center, System Program Office, and Technical Engineering and Management Support contractor. TOTAL.
Project 2866	Page 3 of 7 Pages	Exhibit R-2 (PE 0604703F)
	993	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	R-2 Exhib	Ē		DATE Febru	February 1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604703F Aero	D TITLE Aeromedical Systems Development	al Systen	ns Deve	lopment	PROJECT 2866	
U) B. Program Change Summary (\$ in Thousands)					Total		
(U) Appropriated Value 6,235 6,235	6 FY 1997 5 5,977 5 5,977	FY 1998 4,390	<u>FY 1999</u> 2,077	617	Cont		
(U) Adjustments to Appropriated value a. Congressional Gen Reductions b. SBIR c. Omnibus or Above Threshold Repropramming	2 -156 3 -108						
'n	61 -6 73 5,707	-36 4,354	-20 2,057	2	Cont		<u> </u>
(U) Change Summary Explanation: Funding: Adjustments to FY96, \$122K for Congressional reductions, \$113K for SBIR, Reprogramming and Rescissions for Bosnia and F-16 Jordanian bill and other minor cuts; and for FY97: \$162for Congressional General Reductions/Recission, and \$108K for SBIR.	s, \$113K for SBIR, Reductions/Recission, an	eprogramming a d \$108K for SB	nd Rescissio IR.	ns for Bosı	nia and F-16 Jo	rdanian bill and	
Schedule: No change.							
Technical: No change.							
(U) C. Other Program Funding Summary (S in Thousands)							
(U) Other Procurement, AF, BP, Other Base and 0 10,475 Maintenance Support, Medical/Dental Equipment	FY 1998 9,199 FY 1999 12,587	9 <u>FY 2000</u> 7 10,997	FY 2001 9,282	FY 2002 4,630	FY 2003 4,580	To To Comple Cont	Fotal Cost Cont
Project 2866	Page 4 of 7 Pages			Exhib	Exhibit R-2 (PE 0604703F)	4703F)	7
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PROJECT	KUI &F. BUDGEI III	TEM JUSTIFICATION SHEET (R-2 Exhibit)	2A = 0	= 5		7 17	יייים			Februa	February 1997
OD TERR TRANSPORT SYS X X X X X X X X X X X X X	ing and Manufacturing	evelopment		PE NUM 0604	BER AND 1	TILE erome	dical	Systems	Develop	ment	PRO. 286
FY 1996	(U) D. Schedule Profile										
X X X X X X X X X X X X X X X X X X X	-	FY 1996	٨	1 E	Y 1997	4	-	Y 199	4	FY 1	999
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T SUCTION UNIT SPINAL CORD INJURY TRANSPORT SYS			>								
T SUCTION UNIT T SUCTION UNIT E Section X X X X X X X X X X X X X	- Begin DAID - Begin OT&E			<							×
T SUCTION UNIT	THREAT MODEL										
T SUCTION UNIT Ecision X X X X E E E E N X X X N X X X X X X X X	- IOC - BOC	×				×					
ecision	CONTINUERMIT SUCTION UNIT					<					
E X X X X X X X X X X X X X X X X X X X	- Milestone II Decision		×								
te	- Begin EMD		×								
X X EE X Excision X On X S X Sof or an acteristics X Set system solutions X Page 5 of 7 Pages X Exhibit R-2 (PE 0604703F).	- Complete OT&E			×							
E X X X X X X X X X X X X X X X X X X X	- Milestone III Decision				×						
## A	CHATH/CHAMP		;								
e OT&E II Decision oduction X X Y X Y X PLS PLS PLS reprformance characteristics and test system solutions sent A Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- Complete DT&E										
e III Decision X Yor PLS PLS PLS PLS PLS A X X X X X X X X X X X X X	- Complete OT&E			×							
oduction Yor PLS PLS PLS PLS PLS A X X X X X X X X X X X X	- Milestone III Decision				×						
PLS PLS PLS PLS PLS A PLS X X X X X X X X X X X And test system solutions and test system solutions icint A Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- Begin Production				×						
t for PLS r PLS r PLS r PLS r PLS r PLS x	CRAF AES					i					
r PLS r PLS r PLS r PLS r PLS Re and test system solutions ment Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- IOT&E for PLS					×	;				
sys performance characteristics K X X X X Me and test system solutions ment Ment Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- IOC for PLS						×		;		
sys performance characteristics te and test system solutions ment Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- FUC TOF FLS								<		
and test system solutions The second of 2 Pages 5 of 7 Pages Sof 2 Pages Sof 3 Pages Sof	- Define sys nerformance characteristics					×					
ent Page 5 of 7 Pages Exhibit R-2 (PE 0604703F)	- Integrate and test system solutions					!			×		
Page 5 of 7 Pages	- Deployment										
Page 5 of 7 Pages											
	Project 2866		Pa	ge 5 of 7	Pages				Exhibit R-2	(PE 06047	03F)

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BUDGET ACTIVITY 5 - Engineering and Manufacturing Deve (U) A. Project Cost Breakdown (\$ in Thousands) (U) Engineering and Manufacturing Development (U) Development/Operational Test and Evaluation (U) Contractor Engineering Support (U) Miscellaneous (System Program Office Operations) (U) Mission Support/Supplies (U) Total	uring Development							,	
 (U) A. Project Cost Breakdown (\$\frac{s}\$ in T (U) Engineering and Manufacturing Deve (U) Development/Operational Test and E (U) Contractor Engineering Support (U) Miscellaneous (System Program Offi (U) Mission Support/Supplies (U) Total 	housands)	pment	PE NUMBER AN 0604703F		nedical Sy	ori⊓E Aeromedical Systems Development	velopmen		РРОЈЕСТ 2866
 (U) Engineering and Manufacturing Deve (U) Development/Operational Test and E (U) Contractor Engineering Support (U) Miscellaneous (System Program Offi (U) Mission Support/Supplies (U) Total 									
 (U) Engineering and Manufacturing Deve (U) Development/Operational Test and E (U) Contractor Engineering Support (U) Miscellaneous (System Program Official) (U) Mission Support/Supplies (U) Total 		FY 1996		FY 1997	FY 1998	FY 1999	-		
(U) Miscellaneous (System Program Offi (U) Mission Support/Supplies (U) Total	slopment valuation	3,4	3,415	3,310	2,511	1,054			
(U) Miscellaneous (System Program Offic(U) Mission Support/Supplies(U) Total	Valuation	1,6	1,657	1,545	1,139	536			
	ce Operations)	5,8	561 61 5,873	538 61 5,707	393 61 4,354	186 61 2,057			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	Planning Inform	ation (\$ in Thousa	(spu						
Performing Organizations:									
Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Vehicle Date	Award or Performing Obligation Activity <u>Date</u> <u>EAC</u>	ing Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations									
TBTC-A.D. Little CPAF/FFP Mar 91		11,033 13,289	13,134	00	0			0 0	13,134
FPIF			3,186	237	• •	0	0	0	3,423
CISU CPIF Jul 96		TBD 69	0	50	0			0	50
TBD			0	49	200	497	9//	Cont	1,822
CRAF (PLS) TBD TBD Way 96		TBD TBD	0 6 150	00	2,125			<	2,125
Ē			0,139	>	•			>	0,139
Various			0	0	337	1,997	267		2,601
THREAT-BDM CPFF Aug 94		2,784 2,784	1,308	2,191	348	0	0	0	3,847
Project 2866		I	Page 6 of 7 Pages	iges		Exh	Exhibit R-3 (PE 0604703F)	0604703F)	

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RD	RDT&E PROGRAM	GRAM EL		EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE F	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Man	ufacturing	Development	ent	PE NUMBEF 060470;	PE NUMBER AND TITLE 0604703F Aeron	PENUMBER AND TITLE 0604703F Aeromedical Systems Development	/stems De	velopmen	<u>+</u>	PROJECT 2866
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total	Dudget	Dudget			Outset to	Total
Periorming Activity New Rusiness.	or runding Vehicle Various	Oongation Date Varions	Activity EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Mission Support/ Supplies	Various	Various			532	61	61	61	61	Cont	776
Support/Mgmt Organizations TEAMS-OpTech, Delivery McDonald Tech, Order	anizations Delivery Order	Various			3,061	1,657	1,545	1,156	547	Cont	7,966
SPO Operations	Various	Various			3,767	561	538	393	186	Cont	5,445
Test and Evaluation Organizations White Sands	1 Organizations				0	0	0			0	0
Missile Range Aberdeen Proving					0	0	0			0	0
Ground SA-ALC					7 '	0	0			0	2
Armstrong Lab Other					0 138	0 179	0 253	250	220	00	1,040
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	quisition Histor	y and Plannin	g Information	Continued (\$	in Thousands	~					
					Total Prior to FY 1996						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment nd Management Svaluation				44,785 6,828 140	3,476 2,218 179	3,371 2,083 253	2,555 1,549 250	1,104 733 220	000	55,291 13,411 1,042
Total Project					51,753	5,873	5,707	4,354	2,057	0	69,744
Project 2866	;			d	Page 7 of 7 Pages	es		EX	Exhibit R-3 (PE 0604703F)	0604703F)	
					700						

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PE NUMBER: 0604706F

UNCLASSIFIED

PE TITLE: Life Support Systems

***	TI TOUR BILLY	DI II	Y CILLY	I TOIL					DATE		
i c	INDIGE DODGE		A)	ILEM JOSTIFICATION SHEET (K-Z EXNIBIT)	HEE! (F	k-z Exhi	bit)			February 1997	766
5 -	5 - Engineering and Manufacturing D	g Development	ent)90 090	PE NUMBER AND TITLE 0604706F Life S	गापट ife Supp	PE NUMBER AND TITLE 0604706F Life Support Systems	ms			
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	4,518	10,391	3,726	3,819	3,839	3,958	555	0	31,136	TBD
3812	3812 COMBAT EDGE	323	0	0	0	0	0	0	0	323	15
412A	412A Life Support Systems	4,195	10,391	3,726	3,819	3,839	3,958	555	0	30,813	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

passengers, and ground support personnel to operate safely in combat and training environments. Equipment developed under this program are generally classified as This program element is devoted to Engineering and Manufacturing Development (EMD) of aircrew life support equipment. This program element is managed from high-G combat conditions. The majority of the equipment has been developed through the continuing core project, Project 412A. This project provides centralized management of life support items and subsystems. They include the following: flight clothing, flight helmets, oxygen breathing equipment for aviators, anti-G Gravity (G) system for F-15 and F-16 crew members to help reduce the likelihood of G-induced loss of consciousness incidents and increase pilot endurance under operational environment life support systems, escape and descent systems, and survival and recovery systems. Project 3812 developed a pressure breathing antimanagement for the development, acquisition, production, deployment, and support of aircrew protective equipment. These aircraft subsystems enable aircrews, coveralls, survival radios, night vision devices, laser eye protection devices, active/passive noise reduction devices, parachute releases and aircraft ejection seats. pre-concept to disposal, under the Integrated Weapon System Management (IWSM) single manager concept. The Life Support program provides consolidated

(U) Acquisition Strategy:

Acquisition strategy is incorporated at the project level.

Page I of II Pages

Exhibit R-2 (PE 0604706F)

RDT&E BUDGET ITEM JI	EM JUSTIFICATION SHEET (R-2 Exhibit)	TION SH	EET (R-2	Exhibit)		DATE Exhaust 1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	pment	PE NUI	PE NUMBER AND TITLE 0604706F Life S	PE NUMBER AND TITLE 0604706F Life Support Systems	ystems	repludiy 1997
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (PB) (U) Appropriated Value	FY 1996 4,035 4,035	FY 1997 4,363 10,863	FY 1998 3,740	FY 1999 3,838	Total <u>Cost</u> TBD	
a. Congressional General Reductions b. Omnibus/Other Above Threshold Reprogramming c. Small Business Innovative Research (SBIR) d. Below Threshold Reprogramming (BTR)	-98 -43 -85 734	-230				
 e. Rescissions (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/FY98 PB 	-25 4,518	-10	-14 3,726	-19 3,819	TBD	
 (U) Change Summary Explanation: Funding: Below threshold reprogramming of FY96 funds increased for an ACES II ejection seat study. Schedule: Incorporated at the Project Level 	funds increased	l for an ACES	II ejection sea	ıt study.		
Technical: No Changes						
(U) C. Other Program Funding Summary (S in Thousand	<mark>housands)</mark> Not Applicable	ole				
(U) D. <u>Schedule Profile</u> Incorporated at the Project Level						
		Page 2 of 11 Pages 1000	Pages		Exh	Exhibit R-2 (PE 0604706F)
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RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOIL	HEET (F	१-2 Exhi	bit)		DATE Fe	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing I	Development	ent	PE N	PE NUMBER AND TITLE 0604706F Life 5	TITLE Life Supp	PE NUMBER AND TITLE 0604706F Life Support Systems	ms		T. CO	РРОЈЕСТ 3812
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3812 COMBAT EDGE	323	0	0	0	0	0	0	0	323	15,081
(U) A. Mission Description and Budget Item Justification This project develops and fields a positive pressure breathing anti-G system for F-15 and F-16 crew members, called the COMBined Advanced Technology Enhanced Design Anti-Gravity Ensemble (COMBAT EDGE). This system is designed to reduce the cumulative effects of G-induced stress and fatigue and thus reduce the number of G-induced Loss Of Consciousness (G-LOC) incidents. The system supplements the current anti-G suit garment with the additional following equipment: an upper torso counter pressure vest, a tensioning bladder modification kit incorporated into the current HGU-55/P helmet, a new oxygen mask, a modified oxygen regulator, and a modified high-flow anti-G valve. For COMBAT EDGE Gentex Corporation and Carleton Technologies are the prime contractors with firm fixed price contracts.	Justification ressure breathing anti-G system for F-15 and F-16 crew members, called the COMBined Advanced Technology Enhanced ressure breathing anti-G system for F-15 and F-16 crew members, called the COMBined Advanced Technology Enhanced EDGE). This system is designed to reduce the cumulative effects of G-induced stress and fatigue and thus reduce the ss (G-LOC) incidents. The system supplements the current anti-G suit garment with the additional following equipment: oning bladder modification kit incorporated into the current HGU-55/P helmet, a new oxygen mask, a modified oxygen valve. For COMBAT EDGE Gentex Corporation and Carleton Technologies are the prime contractors with firm fixed price	ng anti-G sy ystem is des idents. The nodification	stem for F-1 igned to red system supp kit incorpor E Gentex Co	5 and F-16 cure the cum slements the ated into the ryporation ar	rew member ulative effec current anti- current HGl nd Carleton	rs, called the ts of G-induc G suit garme U-55/P helm Fechnologies	COMBined ced stress an ant with the et, a new ox are the print	Advanced Infatigue and additional for year mask, ne contracto	Technology Ed thus reduce of thus reduce sellowing equi a modified of its with firm the firm	inhanced the oment: cygen ixed price
 (U) <u>FY 1996</u> Conduct manrating on mask improvements (comfort and design) (U) \$25 Complete FOT&E on mask improvements (U) \$25 Conduct Functional Configuration Audit/Physical Configuration Audit (FCA/PCA) on overall improved mask (U) \$193 Deploy COMBAT EDGE to F-15 units (U) \$323 	mask improvements (comfort and design) nask improvements nnfiguration Audit/Physical Configuration GE to F-15 units	ments (com/ nents idit/Physica ts	fort and desi	gn) ion Audit (F ¹	CA/PCA) on	overall impr	oved mask			
(U) FY 1997 - Not Applicable										
Project 3812			Page 3 of 11 Pages	11 Pages			Exhib	Exhibit R-2 (PE 0604706F)	0604706F)	

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Per Number Annual Summary (S in Thousands)	RDT&E BUDGET ITEM JUSTIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibit		DATE February 1997
(U) Previous President's Budget EY 1996 EY 1997 EY 1998 EY 1999 Control (U) Adjustments to Appropriated Value 323 0 EX 1999 EY 1999 (U) Adjustments to Appropriated Value 323 0 EX 1999 (U) Adjustments to Appropriated Value 323 0 EX 1999 (U) Adjustments to Appropriated Value 323 0 EX 1999 (U) Adjustments to Appropriated Value 323 0 EX 1999 (U) Adjustments to Budget Varse sine PY97 PB 323 0 EX 1999 (U) Adjustments to Budget Varse sine PY97 PB 323 0 EX 1999 (U) Adjustments to Budget Varse sine PY97 PB 323 0 EX 1999 (U) Change Summary Explanation: Fembring Py85 Below Threshold Reprogramming was to initiate the deployment of COMBAT EDGE to F-15 units. FY96 budget year was increased to complete Follow—On Test and Evaluation (FOT&E) on mask improvements, and to complete the deployment of COMBAT EDGE to F-15 units was recheduled to begin in the follow—On Test and Evaluation (FOT&E) on mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was recheduled to begin in the first quarter of 1996. Technical: No Changes (U) C. Other Program Funding Summary (\$\$ in Thousands) - Not Applicable Technical: No Changes (D) C. Other Program Funding Summary (\$\$ in Thousands) - Not Applicable Technical: Selective test for Reference of Py96 (BP EXPERTED FOR EXPENSE FOR EXPERTED FOR EXPENSE FOR EXPEN	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND 0604706F	TITLE Life Support	Systems	PROJECT 3812
(U) Appropriated Value 15.081 (O) Appropriated Value 23.3 (O) Appropriated Value 15.081 (O) Appropriated Value 23.3 (O) Appropriated Value 23.3 (O) Adjustments to Appropriated Value 25.8 (I) Current Budget Vares since FY97 PB 32.3 (I) Change Summary Explanation: Funding: FY95 Below Threshold Reprogramming was to initiate the deployment of COMBAT EDGE to F-16 units. FY96 budget year was increased to complete Follow-On Test and Evaluation (FOT&E) on mask improvements, and to complete the deployment of COMBAT EDGE to F-15 units. Schedule: Integration tests on mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the contractor for FOT&E on the concept I mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the contractor for FOT&E on the concept I mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the first quarter of 1996. (U) C. Other Program Funding Summary (S in Thousands) - Not Applicable Exhibit R-2 (PE 0604706F)	(U) B. <u>Program Change Summary (S in Thousands)</u>				Total
a. Below Threshold Reprogramming (U) Adjustments to Budget Years since FY97 PB 323 0 IS Adjustments to Budget Years since FY97 PB (U) Current Budget Vears ShouriFY98 PB (U) Current Budget Vears ShouriFY98 PB (U) Change Summary Explanation (FOT&E) on mask improvements, and to complete the deployment of COMBAT EDGE to F-15 units. Schedule: Integration tests on mask improvements, Comfort and design) moved from FY95 to the first quarter of FY96 due to defective test items delivered by the contractor for FOT&E on the concept I mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the first quarter of 1996. Technical: No Changes (U) C. Other Program Funding Summary (S in Thousands) - Not Applicable Project 3812 Exhibit R-2 (PE 0604708F)	FY 1	FY 199	FY 1998	FY 1999	15,081
(U) Change Summary Explanation: Funding: FY95 Below Threshold Reprogramming was to initiate the deployment of COMBAT EDGE to F-16 units. FY96 budget year was increased to complete Follow-On Test and Evaluation (FOT&E) on mask improvements, and to complete the deployment of COMBAT EDGE to F-15 units. Schedule: Integration tests on mask improvements (comfort and design) moved from FY95 to the first quarter of FY96 due to defective test items delivered by the contractor for FOT&E on the concept I mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the first quarter of 1996. Technical: No Changes (U) C. Other Program Funding Summary (\$ in Thousands) - Not Applicable	ning FY97 PB				15,081
Schedule: Integration tests on mask improvements (comfort and design) moved from FY95 to the first quarter of FY96 due to defective test items delivered by the contractor for FOT&E on the concept I mask improvements. The initiation in the deployment of COMBAT EDGE to F-15 units was rescheduled to begin in the first quarter of 1996. Technical: No Changes (U) C. Other Program Funding Summary (S in Thousands) - Not Applicable Page 4 of 11 Pages Exhibit R-2 (PE 0604706F)	(U) Change Summary Explanation: Funding: FY95 Below Threshold Reprogramming was to initiate the Follow-On Test and Evaluation (FOT&E) on mask improvements,	e deployment of COMB and to complete the dep	AT EDGE to F-1 oyment of COM	6 units. FY96 bu BAT EDGE to F.	udget year was increased to complete
er Program Funding Summary (\$ in Thousands) - Not Applicable Page 4 of 11 Pages	Schedule: Integration tests on mask improvements (comfort and de contractor for FOT&E on the concept 1 mask improvements. The first quarter of 1996.	sign) moved from FY95 initiation in the deploym	to the first quarte ent of COMBAT	r of FY96 due to EDGE to F-15 u	defective test items delivered by the nits was rescheduled to begin in the
er Program Funding Summary (\$ in Thousands) - Not Applicable Page 4 of 11 Pages	Technical: No Changes				
Page 4 of 11 Pages		icable			
Page 4 of 11 Pages					
Page 4 of 11 Pages					
	Project 3812	Page 4 of 11 Pages		Ω	khibit R-2 (PE 0604706F)

RDT&E BUDGET		STIFIC	ATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 E)	xhibit			DATE F.	February 1997	y 1997		_
вироет астіvіту 5 - Engineering and Manufacturin	ng Development	ment		PE NUMBER AND TITLE 0604706F Life Support Systems	ND TITLE Life St	pport	Systems				PROJEC 3812	РРОЈЕСТ 3812	
(U) D. <u>Schedule Profile</u>													
	FY 1996	96 3	-	$\frac{\text{FY } 1997}{2}$	4		FY 1998 2 3	4		$\frac{\text{FY } 1999}{2}$	3 89	4	
(U) - Initiate F-15 deployment (U) - Completed F-16 deployment (U) - Integration tests on mask improvements (comfort and hang) (U) - Complete F-15 deployment (U) - Complete FOT&E on mask improvements (U) - Conduct Functional Configuration Audit/Physical Configuration Audit on overall improved mask	× ×	×	**	×									
Project 3812			Pag	Page 5 of 11 Pages				Exhibit	R-2 (PE	Exhibit R-2 (PE 0604706F)	6F)		
				1000						1			

RDT	RDT&E BUDGET IT	EM JUS	TIFICA	TION S	HEET (F	EM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing	Manufacturing D	Development	lent	PE N	PE NUMBER AND TITLE 0604706F Life 3	TITLE Life Supp	DE NUMBER AND TITLE OGO 4706F Life Support Systems	ms			РКОЈЕСТ 412A
COST (\$ II	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
412A Life Support Systems		4,195	10,391	3,726	3,819	3,839	3,958	555	0	30,813	TBD
(U) A. Mission Description and Budget Item Justification This project provides for Engineering, Manufacturing, at requirements for improved life support equipment. This following: flight clothing, flight helmets, oxygen breath reduction devices, parachute releases, and aircraft ejectio also provides for the transitions of new technology into Electro-Optical Products Division, Bose Corporation, an select a single primary source for EMD and follow-on pr	A. Mission Description and Budget Item Justification This project provides for Engineering, Manufacturing, and Development (EMD) of life support equipment and subsystems to satisfy operational command requirements for improved life support equipment. This project also provides for the continuing development of life support items and subsystems such as the requirements for improved life support equipment. This project also provides for the continuing flight clothing, flight helmets, oxygen breathing equipment for aviators, anti-G coveralls, survival radios, night vision devices, active/passive noise reduction devices, parachute releases, and aircraft ejection seats. Program management support includes tasks to assess deficiencies of currently fielded equipment. It also provides for the transitions of new technology into EMD and to support all current life support projects. Life Support Systems top three major contractors are ITT Electro-Optical Products Division, Bose Corporation, and Conax Florida Corp. Life Support efforts result from full and open competition among qualified vendors to select a single primary source for EMD and follow-on production.	stification teturing, and Develor tent. This project al gen breathing equip raft ejection seats. I logy into EMD and oration, and Conax I llow-on production.	Developme oject also presequipment seats. Program ID and to su Conax Floric luction.	nt (EMD) of rovides for tl for aviators, am manager pport all cur la Corp. Life	f life support he continuin b, anti-G covo ment support rent life support et	equipment s g developme ralls, surviv. t includes tas port projects. Torts result fi	and subsyster ant of life sup, al radios, nig ks to assess of . Life Suppo rom full and	ns to satisfy port items a thriston der deficiencies ort Systems to open compe	operational ond subsystem rices, active/ of currently i	command ns such as th passive nois fielded equi or contracto	e e oment. It rs are ITT endors to
(U) FY 1996 - (U) \$2,246 C - (U) \$565 E - (U) \$245 R - (U) NSP C - (U) NSP D - (U) NSP D - (U) S519 PP - (U) \$510 PP - (U) \$120 PP - (U) \$120 PP	Complete Design, then build initial test assets for combined Night Vision System (NVS) Developmental Test & Evaluation / Operational Test and Evaluation (DT&E/OT&E) Engineering & Management Support Receive NVS test assets & begin Government DT&E Complete ANR government DT&E and IOT&E. (AFSOC funded) Deliver/Support ANR production units. (Production \$1,482K-AFSOC funded; Support-NSP) Start/Support UWARS production deliveries. (Support-NSP, Production funded under PE 27596F, Base Ops - Tactical Air Forces) Contract award for ACES II CIP upgrade study Program Management Support and Travel Program cost/risk management Total	uild initial test ass. E) tent Support & begin Government DT&E and IC oduction units. (I roduction deliverity II CIP upgrade at Apport and Travel	ist assets for ernment DT nd IOT&E. is. (Product liveries. (Strade study ravel	combined N R&E (AFSOC fu ion \$1,482K upport-NSP,	Vight Vision Inded) C-AFSOC fur Production	System (NV nded; Suppo funded under	S) Developm rr-NSP) r PE 27596E;	nental Test &	: Evaluation Tactical Air	/ Operations Forces)	if Test and
Project 412A				Page 6 of 11 Pages	11 Pages			Exhib	Exhibit R-2 (PE 0604706F))604706F)	

RD	RDT&E BUDGET ITEM JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
вироет астічту 5 - Engineering and Manufacturing	nd Manufacturing Development	PE NUMBER AND TITLE 0604706F Life Support Systems	PROJECT 412A
(U) FY 1997 - (U) \$4,760 - (U) \$1,500 - (U) \$1,195 - (U) \$610 - (U) \$610 - (U) \$891 - (U) \$582 Initiate Laser Eye Protection (LEP) project Continue ACES II ejection seat Component Improvement Program (CIP) Continue ACES II ejection seat Component Improvement Program (CIP) Continue Government DT&E & OT&E on NVS test assets Complete/Support ANR production deliveries. (Production - AFSOC funded; Support-NSP) Continue UWARS production deliveries Initiate the Advanced Technology Concept Anti-Gravity Suit (ATAGS) project Continue contractor-conducted qualification testing of life support systems Program Management/Mission Support and Travel Total	ent Program (CIP) ish Logistics support sets tion - AFSOC funded; Support-NSP) y Suit (ATAGS) project life support systems		
(U) FY 1998 - (U) \$601 - (U) \$100 - (U) \$1,873 - (U) \$2,42 - (U) \$2,42 - (U) \$3,44 - (U) \$3,44 - (U) \$3,726 - (U) \$3,726	Receive final test assets for NVS Developmental / Operational Test and Evaluation (DT&E / Complete Government OT&E on NVS test assets Continue Laser Eye Protection (LEP) project Continue contractor-conducted qualification testing of life support systems (FAMBRC) Complete/Support ANR production deliveries. (Production - AFSOC funded; Support-NSP) Continue UWARS production deliveries Complete ATAGS program Program Management/Mission Support and Travel Program cost/risk management	Receive final test assets for NVS Developmental / Operational Test and Evaluation (DT&E / OTE), TDY & engineering support (SETA) Complete Government OT&E on NVS test assets Continue Laser Eye Protection (LEP) project Continue contractor-conducted qualification testing of life support systems (FAMBRC) Complete/Support ANR production deliveries. (Production - AFSOC funded; Support-NSP) Continue UWARS production deliveries Complete ATAGS program Program Management/Mission Support and Travel Program cost/risk management	gineering support (SETA)
(U) <u>FY 1999</u> - (U) \$2,779 - (U) \$212 - (U) \$335 - (U) NSP - (U) \$493 - (U) \$3,819	Continuation of EMD, Laser Eye Protection (LEP) project Receive LEP test assets; begin contractor-conducted qualification testing of LEP project Continue contractor-conducted qualification testing of life support systems (FAMBRC) Complete/Support ANR production deliveries. (Production - AFSOC funded; Support-NSP) Program Management/Mission Support and Travel Total	ject nalification testing of LEP project life support systems (FAMBRC) ction - AFSOC funded, Support-NSP)	
Project 412A	Pag	Page 7 of 11 Pages Exhibi	Exhibit R-2 (PE 0604706F)
		1005	

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development (1) R. Program Change Summer Research	nent	PE NUMBER AND TITLE 0604706F Life 9	E NUMBER AND TITLE 0604706F Life Support Systems	rt Systems	PROJECT 412A
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 3,712 3,712	EY 1997 4,363 10,863	<u>FY 1998</u> 3,740	FY 1999 3,838	Total <u>Cost</u> TBD
a. Congressional General Reduction b. Omnibus & Other Above Threshold Reprogramming c. Small Business Innovative Research (SBIR) d. Below Threshold Reprogramming (BTR)	-98 -43 -85 734	-230			
e. Recisssions (U) Adjustments to Budget Years since FV97 PB (U) Current Budget Submit/98 PB	4,195	-10	-14 3,726	-19 3,819	TBD
(U) Change Summary Explanation: Funding: FY96 and FY97 NVS program re-structure incorporated an improved NVS optical design and combined DT&E with OT&E, thereby reducing testing costs while maintaining the scheduled Initial Operating Capability (IOC).	reorporated an imp. (Capability (IOC).	roved NVS optic	al design and con	nbined DT&E wit	h OT&E, thereby reducing testing
Schedule: Re-design of NVS optics resulted in later delivery of test assets; however, combination of DT&E and OT&E cut test costs and test schedule, preserving net schedule for IOC.	livery of test assets.	; however, comb	nation of DT&E	and OT&E cut te	st costs and test schedule, preserving
Technical: NVS optical design incorporates newly deve	newly developed technology, and is not driven by any failure in the previous design.	and is not driven	by any failure in	the previous desi	gn.
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands) - Not Applicable				

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Project 412A

Exhibit R-2 (PE 0604706F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604706F Life Support Systems	PROJECT 412A
(U) D. Schedule Profile FY 1996	FY 1997 FY 1998	FY 1999
		n N
Project 412A	Page 9 of 11 Pages Exhibit R-2	Exhibit R-2 (PE 0604706F)

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RD	RDT&E PROGRAM EL	3RAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COST	3REAKD	OWN (R	-3)	DATE	Eob.::01	1001
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ng and Manu	ıfacturing	Developme	nt	PE NUMBI 06047(PE NUMBER AND TITLE 0604706F Life Support Systems	upport Sy	/stems	_	repruary	PROJECT 412A
(U) A. Project Cost Breakdown (\$ in Thousand	ost Breakdown (S in Thousan	(sp								
				FY 1996	Ī	FY 1997	FY 1998	FY 1999	<u>66</u>		
(U) Contracts (U) Technical Engineering Support	neering Support			2,746	VO 20	811 7,505	1,404	1,4	1,43 <i>7</i> 921		
(U) Government Testing (U) Program Management Support (U) Program cost/risk management (U) Total	esting gement Support isk management			122 245 397 120		196 1,060 346 473	200 100 410 714	3 2 2 7	138 212 399 712		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Plannin	g Information (S in Thousand		166,01	3,720	بر ب	3,819		
Performing Organizations:	ıizations:				ļ						
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	int Organizations										
Kaiser Electronics	C,CPAF	18 Jan 93	4,831	4,831	4,831	0	0	0	0	0	4,831
ITT Future Award for (ATAGS)	C,CPAF C,CPFF	18 Jan 93 Dec 96	16,891 1,993	16,891 1,993	11,384	2,246 0	311	262 98	0	00	14,203 598
Future Award for (LEP)	C,CPFF	Aug 98	10,226	10,226	0	0	0	1,044	1,437	4,680	7,161
McDonnell Douglas	C,CPFF	Dec 96	749	749	0	200	0	0	0	0	200
(U) Total			34,690	34,690	16,215	2,746	811	1,404	1,437	4,600	27,293
Project 412A				Page	Page 10 of 11 Pages	zges		Ľ	chibit R-3 (F	Exhibit R-3 (PF 0604706F)	
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RDT&E PROGRAM E	ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COST BI	REAKDO	JWN (R-3	≅	DATE	February 1997	1997
вирсет Астіvіту 5 - Engineering and Manufacturing	g Development	14	PE NUMBER AND TITLE 0604706F Life S	RAND TITLE SE SE LIFE SE	D TITLE Life Support Systems	tems			РРОЈЕСТ 412A
Support and Management Organizations Program Management Support	1,137	1,137	1,615	397	346	410	399	Cont.	TBD
Travel	929	929	225	122	196	200	100	Cont.	TBD
Program costrisk Management System Eng Tech Asst (SETA)	0 3,239	0 3,239	0 1,995	120 565	473 7,505	728 898	731 921	Cont.	TBD
Test and Evaluation Organizations Air Force Flight Test Center	4,082	4,082	2,858	245	1,060	100	212	Cont.	TBD
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	34,690 5,305 4,082	34,690 5,305 4,082	16,215 3,835 2,858	2,746 1,204 245	811 8,520 1,060	1,404 2,236 100	1,437 2,189 212		TBD
Total Project	44,077	44,077	22,908	4,195	10,391	3,726	3,819		
Project 412A		Pa	Page II of II Pages	ges		Exi	hibit R-3 (Pi	Exhibit R-3 (PE 0 <u>60</u> 4706F)	(-

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PE NUMBER: 0604708F

UNCLASSIFIED

PE TITLE: Civil, Fire, Environmental, Shelter

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	R-2 Exhi	bit)		DATE Fe	February 1997	260
BUDGET ACTIVITY 5 - Engineering and Manufacturing I	g Development	ent	PE NI	PE NUMBER AND TITLE 0604708F CIVII,	TITLE SIVII, Fire,	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	mental,	Shelter		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	2,580	2,617	2,698	2,770	2,836	2,905	2,959	3,027	Continuing	Continuing
2054 Aerospace Facilities Engineering Development	645	689	718	740	758	774	788	806	Continuing	Continuing
2505 Aircraft Firefighting Suppression & Rescue	1,140	1,049	1,060	1,098	1,131	1,161	1,184	1,212	Continuing	Continuing
2674 Tactical Shelters	152	181	202	191	188	195	198	202	Continuing	Continuing
3788 Environmental Quality	643	869	718	741	759	775	789	807	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Environmental work performed under this program element is Engineering and Manufacturing Development because it takes emerging technologies and develops them to increase fire fighting support of combat operations, to improve base recovery after attack capabilities, and to reduce fire risks to personnel and resources. c) Tactical operational effectiveness, survivability, durability, and longevity of air base pavements, buildings and utilities; the overall objective is to provide an infrastructure that effectively supports the Air Force mission, contributes to high sortie rates, supports forward projection of air power, is less susceptible to damage from enemy actions or natural disasters, and is more rapidly returned to service if damaged. b) Fire Fighting Suppression and Rescue develops new concepts and technology applications Shelters is the USAF portion of a tri service effort to develop standardized, low maintenance, survivable shelters and shelter accessories that are easily mobilized and medical, and data processing units for the tactical and strategic forces. d) Environmental Quality ensures Air Force compliance with existing laws, executive orders, and Air Force policies by developing technologies to identify, reduce, and eliminate pollutant sources, identify and dispose of hazardous waste, conduct remediation, compatible with air, sea and land transport systems. These products will effectively support high mobility aircraft support, command and control, communications, This program funds the development, testing and evaluation of materials, equipment and procedures in four separate areas: a) Facilities Engineering improves the and mitigate the effects wastes and pollutants. This project develops equipment, materials, and processes in support of the Air Force environmental program for Air Force use.

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Exhibit R-2 (PE 0604708F)

RDT&E BUDGET ITEM JUS	TIFICATIO	FEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	Ē	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ant	PE NUMBER AND TITLE 0604708F CIVII,	D TITLE Civil, Fire, 1	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	al, Shelter
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget (U) Appropriated Value (II) Adjustment to Budget Vears Since EV 07 DB	FY 1996 2,598 2,598	FY 1997 2,736 2,736	FY 1998 2,843	FY 1999 2,922	Total Cost Cont
(U) Current Budget Submit/President's Budget	(2) 2,580	2,617	(145)	(222)	Cont
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	on and to cover	higher priority re	quirements.		
Schedule: Not Applicable. Technical: Not Applicable.					
ımmary (S in	Thousands): Not Applicable.				
(U) D. Schedule Profile: Not Applicable.					
	Pag	Page 2 of 18 Pages		Ēx	Exhibit R-2 (PE 0604708F)

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RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	R-2 Exhi	bit)		DATE	Eobrigan, 1007	207
BUDGET ACTIVITY 5 - Engineering and Manufacturing	Development	lent	PE N	PE NUMBER AND TITLE 0604708F CIVII,	D TITLE Civil, Fire,	, Environ	Environmental, Shelter	Shelter	oldary in	2054
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2054 Aerospace Facilities Engineering Development	645	689	718	740	758	774	788		Continuing	Continuing
(U) A. Mission Description and Budget Item Justification Develops equipment, materials, and procedures to improve the operational effectiveness of aerospace facilities.	Tustification res to improve	the operatio	nal effective	ness of aero	space faciliti	es.				
 (U) FY 1996 (\$ in Thousands): (U) \$ 50 Complete EMD for Field Deployable ECUs. (U) \$595 Continue EMD for Small Shelters/ECUs. (U) \$645 Total 	td Deployable ill Shelters/EC	ECUs. Us.								
(U) FY 1997 (\$ in Thousands): (U) \$663 *Continue EMD for Small Shelte (U) \$ 26 Continue other technical support (U) \$689 Total	nall Shelters/ECUs. al support	cUs.								
 (U) FY1998 (\$\frac{\\$}{\\$}\$ in Thousands) (U) \$681 Initiate EMD for EROWPU. (U) \$37 Continue other technical support (U) \$718 Total 	/PU. I support									
(U) FY1999 (\$ in Thousands) (U) \$684 Continue EMD for EROWPU (U) \$ 56 Continue other technical support (U) \$740 Total	WPU l support									
(U) *Transitions to PE64617F for final year of EMD in support of ACC Mission Area Plan	1D in support	of ACC Mis	sion Area Pl	an						
Project 2054			Page 3 of 18 Dage	8 Danes			i i L	, (í	
			1013	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1			LXIIIOII	EXIIIDIL K-2 (PE 0004/08F)	004 / 08F)	
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RDT&E BUDGET ITEM JUS	TIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE Februs	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NUMBER AND TITLE 0604708F CIVIL	ם זוזנב Civil, Fire, I	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	al, Shelter	PROJECT 2054
(U) B. Program Change Summary (\$ in Thousands)			l			
(U) Previous President's Budget	FY 1996 645	FY 1997 713	FY 1998 737	FY 1999 760	Total <u>Cost</u> Cont	
 (U) Appropriated Value (U) Congressional Reductions (U) Adjustments to Budget Years Since FY 97 PB (U) Current Budget Submit/President's Budget 	645 645	(24)	(19) 718	(16)	Cont	
 (U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements. 	on and to cover }	nigher priority req	luirements.			
Schedule: Not Applicable						
Technical: Not Applicable.						
(U) C. Other Program Funding Summary (\$ in Thousands):	.Thousands); Not Applicable.	·				
(U) D. Schedule Profile: Not Applicable.						
Project 2054	Pag	Page 4 of 18 Pages		ш	Exhibit R-2 (PE 0604708F)	708F)
		1014				

RE	T&E PRO	GRAM EI	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COST BI	REAKDO	JWN (R-	3)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineeri	ng and Man	ufacturing	вырсет астічіту 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604708F CIVII,	AND TITLE	ire, Envir	ртпе Civil, Fire, Environmental, Shelter	, Shelter	1. (1	РРОЈЕСТ 2054
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	(\$ in Thousan	<u>(spi</u>	FY 1996		FY 1997	FY 1998	<u>FY 1999</u>	~		
 (U) Field Deployable ECUs (U) Small Shelters/ECUs (U) EROWPU (U) Other technical support (U) Total 	able ECUs s/ECUs al support			50 595 645	- 12	663 26 689	681 37 718	684 56 740	 100		
(U) B. Budget A	cguisition Histor Contract	ry and Planni	(U) B. Budget Acquisition History and Planning Information (S in Thousands): Performing Organizations: Contractor or Contract Mathod Transland Committee Contractor or C	in Thousand	<u>ls):</u> Performi Tetel	ng Organiza	rtions:				
Government Performing <u>Activity</u>	e or Funding Vehicle	Awalu or Obligation <u>Date</u>	renorming Activity <u>EAC</u>	Office EAC	Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations Small C/FFP Shelters/ECUs	rent Organization C/FFP	<u>si</u> Jun 97	1,258	1,258	0	595	663	0	0	0	1,258
Support and Management Organizations Various Various Va	gement Organiza Various	<u>ttions</u> Various	85	85	0	50	35	0	0	0	85
Test and Evaluation Organizations N/A	on Organizations										
(U) B. Budget Acquisition History and Plans	equisition Histor	ry and Planni	ing Information Continued (\$ in Thousands)	ontinued (§ ii	n Thousands	~					
Subtotal Product Development Subtotal Support and Management Total Project	Development ind Management				000	595 50 645	663 35 698	000	000	000	1,258 85 1,343
Project 2054				Pag	Page 5 of 18 Pages	res		EX.	Exhibit R-3 (PE 0604708F)	0604708F)	
					9101		' 				

RD	RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhi	biti		DATE		
BUDGET ACTIVITY	•			DE N	IMPED AND				Į.	rebruary 1997	97
5 - Engineering a	5 - Engineering and Manufacturing L	Development	ent	090 000	0604708F Civil,	ivil, Fire,	Civil, Fire, Environmental, Shelter	mental, \$	Shelter	т (А	PROJECT 2505
COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2505 Aircraft Firefighting	Aircraft Firefighting Suppression & Rescue	1,140	1,049	1,060	1,098	1,131	1,161	1,184	1,212	Continuing	Continuing
(U) A. Mission Descrip Develops improved	(U) A. Mission Description and Budget Item Justification Develops improved fire fighting, suppression and rescue equipment, materials, and methods to increase fire protection readiness, mobility, and effectiveness.	lustification 1 and rescue eq	uipment, ma	terials, and 1	nethods to ii	ncrease fire p	protection re	adiness, mo	bility, and ef	ffectiveness.	
(U) FY 1996 (\$ in Thousands) (U) \$ 623 Continue (U) \$ 517 Continue (U) \$1,140 Total	<u>Thousands):</u> Continue courseware development of FMTS. Completes courseware for HAZMAT III, IV, and V. Continue commercial technology exploitation. Total	elopment of a	FMTS. Con oitation.	apletes cours	seware for H	AZMAT III.	, IV, and V.				
(U) FY 1997 (\$ in Thousands): (U) \$ 580 Continue (U) \$ 409 Continue (U) \$ 60 Continue (U) \$ 1,049 Total	Thousands): Continue courseware development of FMTS. Continue commercial technology exploitation. Continue other technical support Total	elopment of] hnology expl support	FMTS. oitation.								
(U) FY 1998 (\$ in Thousands): (U) \$ 434 Continue (U) \$ 230 Continue (U) \$ 300 Initiate EI (U) \$ 96 Continue (U) \$1,060 Total	Thousands): Continue courseware development of FMTS. Continue commercial technology exploitation. Initiate EMD for HAZMAT emergency response ensemble with body cooling system. Continue other technical support Total	elopment of] hnology expl \T emergenc; support	FMTS. oitation. y response e	nsemble wit	h body cooli	ing system.					
(U) \$ 315 Continue (U) \$ 315 Continue (U) \$ 338 Continue (U) \$ 300 Continue (U) \$ 50 Initiate EM (U) \$ 95 Continue (U) \$ 1,098 Total	<u>Thousands</u>): Continue courseware development of FMTS. Continue commercial technology exploitation. Continue EMD for HAZMAT emergency response ensemble with body cooling system. Initiate EMD for Firefighter Crash Vehicle Enhancement. Continue other technical support. Total	elopment of I mology explo AAT emerger ter Crash Vel support.	TMTS. oitation. Icy response iicle Enhanc	ensemble w	/ith body co	oling system	·				
Project 2505				Page 6 of 18 Pages	8 Pages			Exhibit	Exhibit R-2 (PE 0604708F)	604708F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION SE	HEET (R-	2 Exhibit		DATE February 1997	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NI 060	PE NUMBER AND TITLE 0604708F CIVII,	πε vil, Fire, En	DE NUMBER AND TITLE OG04708F Civil, Fire, Environmental, Shelter	Shelter	PROJECT 2505
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 FY 1,157 1,157	FY 1997 1,125	FY 1998 1,165	FY 1999 1,208	Total Cost Cont	
(U) Adjustments to Budget Years Since FY 97 PB (U) Current Budget Submit/President's Budget	(17)	(26) (50) 1,049	(105) 1,060	(110) 1,09 8	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements.	d to cover higher p	riority require	ments.			
Schedule: Not Applicable.						
Technical: Not Applicable.						
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.	Applicable.					
(U) D. Schedule Profile: Not Applicable.						
Project 2505	Page 7 of 18 Pages	8 Pages		Exhib	Exhibit R-2 (PE 0604708F)	

RE	RDT&E PROGRAM EL	GRAM EL	.EMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COST BI	REAKDO	OWN (R-	3)	DATE	February 1997	997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manı		Development	ب	PE NUMBER AND TITLE 0604708F CIVII,	AND TITLE	Fire, Envi	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	I, Shelter		PROJECT 2505
(U) A. Project Cost Breakdown (\$ in Thousan	ost Breakdown	(\$ in Thousand	(sp								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Firefighter Multimedia Training System (U) Commercial Technology Exploitation (U) HAZMET Emergency Response Ensemble (I) Firefighter Crash Vehicle Enhancement	Firefighter Multimedia Training System Commercial Technology Exploitation HAZMAT Emergency Response Ensem Firefighter Crash Vahiole Enhancement	g System oitation se Ensemble		623 517		580 409	434 230 300	315 338 300	8 8 0		
(U) Other Technical Support (U) Total	cal Support			1,140		60 1,049	96 1,060	50 95 1,098	0 8 8		
(U) B. Budget Acquisition History and Planning Information (S in Thousands): Performing Organizations:	equisition Histor	y and Plannin	g Information (S	in Thousand	<u>s):</u> Performi	ng Organiza	tions:				
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total
Product Development Organizations Firefighter MIPR	ent Organizations MIPR	s Multiple	1,203	1.203	1.221	623	580				- 200
Multimedia Training System Commercial	Multiple	Multiple	936	926	842	517	400	· c			202,1
Technology Exploitation HAZMAT	TBD	TBD	0	C				· •			076
Ensemble Sub Total Support and Management Organizations	ement Organizati	ă		s	•	1,140	686	0	0	Cont	2,129
Various	Various	Various	0	0	0	0	09	0	0	Cont	156
Test and Evaluation Organizations	n Organizations										
Project 2505				Page	Page 8 of 18 Pages	S;		Exh	ibit R-3 (PE	Exhibit R-3 (PE 0604708F)	
					1010						

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RE	RDT&E PROGRAM E	3RAM EL	LEMENT/PROJECT	OJECT (COST BE	REAKDC	COST BREAKDOWN (R-3)	3)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manı		Development		PE NUMBER AND TITLE 0604708F CIVIL	AND TITLE F CIVII, F	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	onmental	, Shelter		PROJECT 2505
Contractor or Government Performing <u>Activity</u> N/A	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
(U) B. Budget A	cquisition Histor	y and Plannin	(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	ntinued (S in	Thousands						
Subtotal Product Development Subtotal Support and Management	Development ind Management				2,063	1,140	09 686	00	0	Cont	4,192
Total Project					2,063	1,140	1,049	0	0	Cont	4,348
Project 2505				Page	Page 9 of 18 Pages	S;		Exh	Exhibit R-3 (PE 0604708F)	0604708F)	

RDT&E BUDGET IT	FEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE	February 16	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing I	Development	ent	PE NI 060	PE NUMBER AND TITLE 0604708F CIVIL	PE NUMBER AND TITLE 0604708F CIVIL, Fire,	, Environmental,		Shelter	• [PROJECT 2674
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2674 Tactical Shelters	152	181	202	191	188	195	198	202	Continuíng	Continuing
(U) A. Mission Description and Budget Item Justification Provides reliable, cost effective tactical shelters required to ensure the success of Air Force missions, provides Air Force membership in the DOD Tactical Shelter Program, and provides technology insertion for shelter development.	Istification rs required to or shelter deve	ensure the s	uccess of Ai	r Force miss	ions, provide	es Air Force	membership	in the DOL) Tactical Sh	elter
 (U) FY 1996 (\$ in Thousands): (U) \$152 Attend JOCOTAS and A supplies, and overhead. (U) \$152 Total 	STM meetings. Coordinate with other Air Force agencies. Fund ESC personnel, contractor support travel, equipment,	gs. Coording	ate with othe	r Air Force a	agencies. Fu	ind ESC pers	ionnel, conti	ractor suppo	rt travel, equ	ipment,
(U) FY 1997 (\$ in Thousands); (U) \$181 Attend JOCOTAS and A supplies, and overhead. (U) \$181 Total	STM meetings. Coordinate with other Air Force agencies. Fund ESC personnel, contractor support travel, equipment,	ss. Coording	te with othe	r Air Force a	gencies. Fu	nd ESC pers	onnel, conti	actor suppo	rt travel, equ	ipment,
(U) \$202 Attend JOCOTAS and A supplies, and overhead. (U) \$202 Attend JOCOTAS and A supplies, and overhead. (U) \$202 Total	STM meetings. Coordinate with other Air Force agencies . Fund ESC personnel, contractor support travel, equipment,	s. Coordina	ıte with othe	r Air Force 8	igencies . Fi	ınd ESC per	sonnel, cont	ractor suppo	ort travel, equ	ipment,
 (U) FY 1999 (\$ in Thousands): (U) \$191 Attend JOCOTAS and ASTM meetings. Coordinate with other Air Force agencies. Fund ESC personnel, contractor support travel, equipment, supplies, and overhead. (U) \$191 Total 	STM meeting	s. Coordina	te with other	r Air Force a	gencies . Fu	and ESC pers	sonnel, cont	ractor suppo	nt travel, equ	ipment,
Project 2674			Page 10 of 18 Pages 1020	18 Pages			Exhibi	Exhibit R-2 (PE 0604708F)	604708F)	
			7701							

RDT&E BUDGET ITEM JUS	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NUMBER AND TITLE 0604708F CIVIL	D TITLE Civil, Fire, I	D ΤΙΤΙΕ Civil, Fire, Environmental, Shelter	al, Shelter	PROJECT 2674
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value	FY 1996 152 152	FY 1997 192 185	<u>FY 1998</u> 204	<u>FY 1999</u> 193	Total Cost Cont	
(U) Adjustments to Appropriated Value a. Undistributed Congressional Reductions		(4)				
U. SDIN(U) Adjustments to Budget Years Since FY 97 PB(U) Current Budget Submit/President's Budget	152	181	(2)	(2) 191	Cont	
 (U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation and to cover higher priority requirements. 	ion and to cover l	higher priority re	quirements.			
Schedule: Not Applicable.						
Technical: Not Applicable.						
(U) C. Other Program Funding Summary (\$ in Thousands);	in Thousands): Not Applicable.					
(U) D. Schedule Profile: Not Applicable.						
Project 2674	Page	Page 11 of 18 Pages		Ē	Exhibit R-2 (PE 0604708F)	4708F)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT CO	JST BREAK	DOWN (R-3	<u> </u>	DATE Fohrusm, 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	<u>a</u> 0	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	.E II, Fire, Envir	onmental,	Shelter 2674
(U) A. Project Cost Breakdown (\$ in Thousands)					
H	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Engineering Support	152	181	202	161	
(U) Total	152	181	202	191	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not Applicable.	housands);	Not Applicable.			
Project 2674	Page 12	Page 12 of 18 Pages		Exhibi	Exhibit R-3 (PE 0604708F)

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	RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE	Fobriton, 4007	6,
BUDGET ACTIVITY				IN DO	DE NI MARED AND TITLE	נועו ב				udiy 13	3/
5 - Engineering	5 - Engineering and Manufacturing L	Development	ent	090	4708F C	0604708F Civil, Fire, Environmental, Shelter	Environ	mental,	Shelter	īn	3788
33	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3788 Environmental Quality	Quality	643	869	718	741	759	775	789	807	Continuing	Continuing
(U) A. Mission Des Develops equip conservation. T effects of waste.	(U) A. <u>Mission Description and Budget Item Justification</u> Develops equipment, materials, and processes in support of the Air Force environmental program including pollution prevention, compliance, restoration, and conservation. The focus is on technologies to reduce and eliminate pollutant sources, provide cost effective waste disposal, conduct remediation, and mitigate effects of wastes and pollutants.	stification in support of reduce and e	the Air For liminate pol	ce environme lutant source	ental prograr s, provide co	n including J	pollution pre waste dispos	eal, conduct	npliance, res remediation,	Justification ses in support of the Air Force environmental program including pollution prevention, compliance, restoration, and to reduce and eliminate pollutant sources, provide cost effective waste disposal, conduct remediation, and mitigate the	the
(U) \$140 Complian (U) \$140 Complian (U) Deve (U) Exect (U) Exect (U) Devel (U) Exect (U) Devel	 in Thousands): Compliance - Aerospace Ground Support Equipment (AGSE). (U) Develop/Provide characteristic emissions data for Air Force Green AGSE Program. (U) Execute scaled down program pending full funding support. (U) Develop program proposals to meet AF ESOH Needs. (U) Prepare for technology transition and program execution. 	Ground Suplaracteristic en program pe oposals to m	port Equipm nissions dat nding full fu eet AF ESOI and progran	ent (AGSE). a for Air For- nnding suppo H Needs. n execution.	ce Green AC rt.	iSE Program	ي				
(U) \$150	Cpmpliance - Aircraft Deicing/Anti-icing. (U) Research environmental laws for maintaining environmental compliance. (U) Develop program proposals to meet ESOH Needs. (U) Identify alternative deicing/anti-icing chemicals/containment technologies. (U) Prepare for technology transition and program execution.	Deicing/Anti-icingmental laws for mai proposals to meet E e deicing/anti-icing logy transition and	ing. maintaining set ESOH N cing chemics	environmen eeds. als/containm	tal complian ent technolo	ce. gies.					
(U) \$47	Pollution Prevention. (U) Define scope and effort involved in supporting AF effort to reduce the use of OI (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Continue execution of HAZMAT identification program for engines at NDCEE. (U) Prepare for technology transition and program execution.	ort involved program pro of HAZMAT gy transition	in supportin posals to NE identificatic and progran	effort involved in supporting AF effort to reduce the use of ODCs and HAZMATS. and proposals to NDCEE and ESTCP. In of HAZMAT identification program for engines at NDCEE. In of HAZMAT identification program for engines at NDCEE.	o reduce the STCP. or engines at	use of ODC	s and HAZN	AATS.			
(U) \$ 101	Pollution Prevention/Compliance - DoD environmental systems (U) Research and document DoD environmental system acquisition projects and programs (U) Research and document funding processes	npliance - Do ent DoD env ent funding p	D environm ironmental s processes	ental system system acquis	s sition project	ts and progra	ams				
Project 3788				Page 13 of 18 Pages	18 Pages			Exhibi	Exhibit R-2 (PE 0604708F)	604708F)	
				1073							

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ATT A THOUSE	RDT&E BUDGET ITEM JUSTIFICATIO	'EM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
5 - Engineering a	SUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PENUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	PROJECT
(U) A. Mission Descri	(U) A. Mission Description and Budget Item Justification Continued		
(U) \$145 (U) \$60 (U) \$643	In-House Contract Support System Program Office Assessment Total		
(U) \$164 Complians (U) \$164 Complians (U) Exect (U) Devel (U) Prepa	ce - Aerospace tte program pe iop program pr re for technolc	Ground Support Equipment Hazardous Air Pollutant Program. ading full funding of effort. oposals to meet AF ESOH Needs.	
(U) \$140	Pollution Prevention - Advanced Oil/Water Separator (U) Determine National Pollutant Discharge Limits for oil and grease content in waste water. (U) Develop proposals to meet ESOH needs. (U) Prepare to transition technology and execute program.	oil and grease content in waste water. am.	
(U) \$ 49	Pollution Prevention. (U) Develop environmental roadmap for metal plating/metal finishing. (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Continue execution of HAZMAT identification program for engines at NDCEE. (U) Define scope and effort involved in supporting AF effort to reduce the use of ODC and HAZMATs. (U) Prepare for technology transition and program execution.	metal finishing. and ESTCP. sgram for engines at NDCEE. effort to reduce the use of ODC and HAZMATs. cution.	
(U) \$274 (U) \$71 (U) \$698	In-House Contract Support System Program Office Assessment Total		
(U) <u>FY 1998 (\$ in Thousands):</u> (U) \$170 Com (U)	sands):Compliance - VOC Emission Control for Spray Booth.(U) Analyze/comment on documentation from lab effort.	ť	
Project 3788	Page	Page 14 of 18 Pages	Exhibit R-2 (PE 0604708F)

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R	RDT&E BUDGET ITEM JUSTIFICATIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a	вирсет ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	PROJECT 3788
(U) A. Mission Descr	(U) A. Mission Description and Budget Item Justification Continued		
	(U) Execute program pending full funding of effort.(U) Develop program proposals to meet AF ESOH Needs.(U) Prepare for technology transition and program execution.	eeds. ecution.	
(U) \$145	Pollution Prevention-Environmental sensors for Monitoring. (U) Establish program requirements to meet OSHA and EPA regulations. (U) Perform analysis and input to lab technology assessments. (U) Develop proposals to meet AF ESOH Needs. (U) Prepare for technology transition and program execution.	oring. nd EPA regulations. ssments.	
(U) \$57	Pollution Prevention. (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Continue execution of HAZMAT identification program for engines at NDCEE. (U) Prepare for technology transition and program execution. (U) Define scope and effort involved in supporting AF effort to reduce the use of ODCs and HAZMATS.	E and ESTCP. cogram for engines at NDCEE. scution. ? effort to reduce the use of ODCs and HAZMATS.	
(U) \$274 (U) \$ 72 (U) \$718	(U) In-House Contract Support (U) System Program Office Assessment Total		
(U) <u>FY 1999 (\$ in Thousands):</u> (U) \$160 Compliance (U) Deter (U) Defin (U) Devel	Thousands): Compliance - Emission control technologies for engine test cells and hush houses. (U) Determine regulatory requirements that must be met. (U) Define scope of effort involved to support AF effort to comply with NESHAPS. (U) Develop proposal to meet ESOH need. (U) Prepare for technology transition and program execution.	etest cells and hush houses. let. ort to comply with NESHAPS.	
(U) \$161	Compliance - Advanced Chemical Monitoring. (U) Determine Regulatory drivers. (U) Review and comment on documentation from lab effort.	effort.	
Project 3788	Page	Page 15 of 18 Pages Exhibit R-	Exhibit R-2 (PE 0604708F)

	RDT&E BUDGET ITEM JUSTIFICAT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering	SUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	PROJECT , Shelter 3788
(U) A. Mission De	(U) A. Mission Description and Budget Item Justification Continued (U) Develop program proposals to meet AF ESOH Needs.	Needs.	
(0) \$ 71	Pollution Prevention. (U) Develop environmental roadmap for metal plating/metal finishing. (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Define scope and effort involved in supporting AF effort to reduce (U) Prepare for technology transition and program execution. (U) Continue execution of HAZMAT identification program for engine.	Pollution Prevention. (U) Develop environmental roadmap for metal plating/metal finishing. (U) Develop and submit program proposals to NDCEE and ESTCP. (U) Define scope and effort involved in supporting AF effort to reduce the use of ODCs and HAZMATS. (U) Prepare for technology transition and program execution. (U) Continue execution of HAZMAT identification program for engines at NDCEE.	
(U) \$274 (U) \$ 75 (U) \$741	In-House Contract Support System program Office Assessment Total		
Project 3788		Page 16 of 18 Pages Exh	Exhibit R-2 (PE 0604708F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	Ē	DATE Febr	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604708F CIVII,	D TITLE Civil, Fire, E	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	al, Shelter	PROJECT 3788
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget 644	FY 1997 713 713	FY 1998 737	FY 1999 761	Total C <u>ost</u> Cont	
nal Reductions get Years Since FY 97 PB nit/President's Budget	(15)	(19)	(20)	Cont	
(U) Change Summary Explanation: Funding: FY 96 and FY 97 programs adjusted for inflation.					
Schedule: Not Applicable.					
Technical: Not Applicable.					
(U) C. Other Program Funding Summary (\$ in Thousands): Not Applicable.					
(U) D. Schedule Profile: Not Applicable.					
Project 3788	Page 17 of 18 Pages		iii	Exhibit R-2 (PE 0604708F)	14708F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SATION	SHEET (R-2	Exhibit)		DATE February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	를 0	PE NUMBER AND TITLE 0604708F Civil, Fire, Environmental, Shelter	: I, Fire, Enviro	onmental, S		РРОЈЕСТ 3788
(U) A. Project Cost Breakdown (\$ in Thousands)						
	FY 1996	FY 1997	FY 1998	FY 1999		
(U) Compliance	290	164	170	321		
(U) Pollution Prevention	142 148	2/4 189	2/4 202	71		
(U) Systems Program Office Assessment	60	71	72	75		
(U) B. Budget Acquisition History and Planning Information (S in Thousands): Not Applicable.	Thousands):	Not Applicable.				
Project 3788	Page 18	Page 18 of 18 Pages		Exhibi	Exhibit R-2 (PE 0604708F)	

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PE NUMBER: 0604727F

PE TITLE: Joint Standoff Weapon System

UNCLASSIFIED

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA"	TION S	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	760
BUDGET ACTIVITY 5 - Engineering and Manufacturing L	Development	ent	PE NI 060	PE NUMBER AND TITLE 0604727F Joint	DE04727F Joint Standoff Weapon System	doff Wea	apon Sys	tem		РRОЈЕСТ 1000
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1000 Joint Standoff Weapon	41,828	22,463	24,676	23,139	14,251	1,584	0	0	0	212,214
Quantity of RDT&E Articles	0	0	0	0	0	°	0	0	0	0

(U) A. Mission Description and Budget Item Justification

defenses. The JSOW launch-and-leave capability will allow several target kills per aircraft sortie. The program provides for development and test of a dispenser design for an ACAT ID program. The RDT&E Research Category/Budget Activity is Engineering and Manufacturing Development - the phase of the program following a successful the JSOW/BLU-108 variant which employs a BLU-108/B submunition payload. Integration of the JSOW Baseline weapon (BLU-97 Combined Effects Munition variant) Corrected Munitions Dispenser (WCMD), BRU-55 Smart Rack, and future smart weapons. JSOW is a joint Air Force/Navy program; Navy is the lead service. JSOW is development of Common Munitions BIT (Built-In Test) Reprogramming Equipment (CMBRE) software, a tester for JSOW, Joint Direct Attack Munition (JDAM), Wind and the JSOW/BLU-108 with the F-16C/D aircraft is also included. Future integration is planned with the B-1B, B-52, and the F-15E. The program also includes the enhance aircraft survivability as compared to current interdiction weapon systems by providing the capability for launch aircraft to standoff outside the range of point The Joint Standoff Weapon (JSOW) is an air-to-ground weapon designed to attack a variety of targets during day, night, and adverse weather conditions. JSOW will Milestone II (Acquisition Decision Memorandum dated 26 April 1995).

(U) FY 1996 (\$ in Thousands):

- Plan, design, and produce test vehicles (U) \$ 14,440
- Plan, design, and conduct flight testing 9,365 \$(n)
- Design, develop, test AFMSS module; perform ILS tasks; begin Common Munitions BIT (Built-In-Test) Reprogramming Equipment (U) \$ 8,017
 - (CMBRE)
- Engineering support, program office support
- · Conduct JSOW/BLU-108 CDR; plan, design, and conduct flight testing to qualify the BLU-108 dispenser 6,458
 - · Continue aircraft integration of BRU-55 Smart Rack
 - · Conduct Survivability Analysis (U) \$ 263 (U) \$ 30 (U) \$ 41,828
 - Total

1029

Page 1 of 6 Pages

Project 1000

Exhibit R-2 (PE 0604727F)

RD.	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FORMING 1007
BUDGET ACTIVITY 5 - Engineering an	DGET ACTIVITY - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604727F Joint Standoff Weapon System	í
(U) FY 1997 (\$ in Thousands): - (U) \$ 2,421 - Plan, dec. (SEPM) - (U) \$ 7,512 - Plan and - (U) \$ 2,649 - Continue - (U) \$ 5,863 - Continue - (U) \$ 1,719 - Continue - (U) \$ 2,299 - Continue	 housands): Plan, design, and produce Initial Operational Test & Evaluation test vehicles; and associated Systems Engineering Program Management (SEPM) Plan and conduct Developmental Test & Evaluation flight testing and associated SEPM Continue development and test AFMSS module and All Up Round (AUR) software changes and maintenance; perform Integrated Logistics Support (ILS) tasks; and associated SEPM Continue engineering and structural testing to qualify BLU-108 dispenser; and associated SEPM Continue engineering support, program office support, Navy technical support at China Lake Continue Smart Rack integration and testing, procure JSOW test assets to support Smart Rack testing 	Evaluation test vehicles; and associated Systems light testing and associated SEPM All Up Round (AUR) software changes and main PLU-108 dispenser; and associated SEPM rt, Navy technical support at China Lake 3 ISOW test assets to support Smart Rack testing	ingineering Program Management tenance; perform Integrated Logistic
(U) FY 1998 (\$ in Thousands): - (U) \$ 3,784 - Complet - (U) \$ 3,921 - Complet - (U) \$ 6,852 - Continue - (U) \$ 4,600 - Continue - (U) \$ 5,269 - Continue - (U) \$ 5,269 - Continue - (U) \$ 24,676 Total	e Development; e development; e engineering su s Smart Rack int e environmental nts; and associa e Common Mur	ald Test and Evaluation (DT&E) flight testing, and associated SEPM and test AFMSS module; perform ILS tasks, AUR software changes and maintenance; and associated SEPM pport, program office support, Navy technical support at China Lake legration and flight testing and structural testing to qualify BLU-108 dispenser; provide training, Technical Orders (TOs), and environmental ted SEPM itions BIT (Built-In Test) Reprogramming Equipment (CMBRE) integration	enance; and associated SEPM al Orders (TOs), and environmental
(U) <u>FY 1999 (\$ in Thousands)</u> - (U) \$ 3,245 - Conduct - (U) \$ 3,937 - Complet integrati - (U) \$ 3,576 - Complet - (U) \$ 12,381 - Complet - (U) \$ 23,139 Total	Joint Developm e development a ion into JSOW; e engineering su e Smart Rack fli	tental Test/Operational Test; plan and conduct JSOW BLU-108 P31 DT&E and associated SEPM and test B-52 AFMSS module; conduct beddown training; continue Sensor Fuzed Weapon (SFW) continue integration and planning support for B-1B and F-15E; and associated SEPM pport, program office support; and Navy technical support at China Lake ght and ground tests; complete Smart Rack EMD and Operational Flight Profile software changes	d associated SEPM ed Weapon (SFW) P31 BLU-108 SEPM le software changes
Project 1000	Pag	Page 2 of 6 Pages	Exhibit R-2 (PE 0604727F)

Page 2 of 6 Pages 1030

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATION	N SHEET	(R-2 Ex	hibit)		DATE	February 1997	790
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	T t	PE NUMBER AND TITLE 0604727F Joint Standoff Weapon System	Joint St	andoff	Veapon S		, and a	РВОЈЕСТ 1000
(U) B. Program Change Summary (\$ in Thousands)								
 (U) Previous President's Budget (U) Appropriated Value (II) Adjustments to Annowisated Value 	FY 1996 44,025 44,025	FY 1997 23,563 23,563	FY 1998 16,732	띠	$\frac{\mathrm{FY}\ 1999}{10,857}$	Total <u>Cost</u> 184,150		
 a. Cong/Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB 	-862 -1,104 -451 490 -270	-505 -595	7,944		12,282			
 (U) Change Summary Explanation: (U) Change Summary Explanation: Funding: FV96 reductions were for Congressional/General Reductions, SBIR, reprogramming for F-16s to Jordan, support for Bosnia operations. FY98 increase results from a transfer of funds from Production to Research and Development and will be used for BRU-55 (Smart Racks) and Improved-BLU-108 integration into JSOW. FY99 increase is for Smart Racks. 	41,828 eral Reductions, on to Research an ks.	22,463 SBIR, reprogrand Developmen	24,676 umming for F. t and will be u	6 F-16s to Jo s used for B	23,139 ordan, support 3RU-55 (Sma	246,479 for Bosnia op rt Racks) and	erations. FY	98 U-108
Schedule: None								
Technical: None								
(U) C. Other Program Funding Summary (\$ in Thousands)							ŧ	
(U) Missile Procurement, AF 0 (U) SEEK EAGLE (PE 0207590F) 0	FY 1997 FY 1998 0 27 8,024 1,112	FY 1999 54,128 10,618	FY 2000 88,210 0	FY 2001 118,451 0	$\frac{\text{FY } 2002}{104,888}$	$\frac{\text{FY 2003}}{137,583}$	To <u>Compl</u> 1,650,950	2,154,210 20,410
(U) Quantity 0	0	0 139	266	380	295	371	4,549	6,000
Project 1000	Page	Page 3 of 6 Pages			Ext	Exhibit R-2 (PE 0604727F)	0604727F)	

FY 1998 2 3 4 1	RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit		DATE	Fohriian, 1007	007
FY 1996	BUDGET ACTIVITY 5 - Engineering and Manufacturing) Development	PE NUMBER AND T	TILE Stando	ff Weapon	System	- coludity	PROJECT 1000
1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	(U) D. Schedule Profile							
Composition Contract, Contract Con	Acquisition Milestones Smart Rack Development	FY 1996 2 3	i		FY 1998 2 3		FY 19	
108 Milestone III 108 Production Contract (AF) 108 Production Contract (AF) 108 Production Contract (AF) 108 Production Contract (AF) 108 Davelopment (F-16) X X N N N	Air Force Incorporation into Baseline Contract, JSOW/BLU-108 Dispenser Development JSOW/BLU-108 Preliminary Design Review JSOW/BLU-108 Critical Design Review JSOW Baseline Production Readiness Reviews ISOW/BLI-108 I RIP Decision	×						;
108 DT&E P Development (F-16) X X 108 System Qualification Test Page 4 of 6 Pages	JSOW/BLU-108 Milestone III JSOW/BLU-108 Production Contract (AF) JSOW/BLU-108 IOC (AF)	4th Qtr FY01 1th Qtr FY02 FY03				×		
Page 4 of 6 Pages	T&E Milestones JSOW/BLU-108 DT&E Complete OFP Development (F-16) JSOW/BLU-108 IOT&E JSOW/BLU-108 System Qualification Test	_				×		
Page 4 of 6 Pages								
Page 4 of 6 Pages								
	Project 1000	Pag	ge 4 of 6 Pages		Û	chibit R-2 (F	² E 0604727F)	

RDT&E PROGRAM ELEMENT/PROJECT		COST BREAKDOWN (R-3)	DOWN (R-	3) DATE	E February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	id O	PE NUMBER AND TITLE 0604727F Joint	LE nt Standoff W	D TITLE Joint Standoff Weapon System	
(U) A. Project Cost Breakdown (S in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Primary Hardware Development (U) Ancillary Hardware Development	9,737	2,018	1,000		
	317	ì	4,600	12,381	
	9,153	1,986	2,233	1,000	
(U) Systems Engineering (II) Training Development	9,432	7,439	6,670	4,481	
	237	255	1,119		
	9,265	7.707	2.080		
	1,343	1.568	1,033	1,064	
(U) Government Engineering Support	275	813	575	75	
(U) Program Management Support/ Other Direct Cite	1,657	263	5,092	4,138	
(U) Survivacinty Analysis	30				
	41,828	22,463	24,676	23,139	
Project 1000	Page 5	Page 5 of 6 Pages		0 e ::	Evkikit D 9 (DE 0604797E)
	7 292 7	of of ages		ב-א וומוו אם	(PE 0004/2/F)

RDT&E PROGRAM EL		EMENT/PROJECT	OJECT	COST BREAKDOWN (R-3)	ZEAKDO	WN (R-	3	DATE	40	1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development		PE NUMBER AND TITLE 0604727F Joint	AND TITLE	PE NUMBER AND TITLE 0604727F Joint Standoff Weapon System	Veapon S		enidary	997 PROJECT 1000
(U) B. Budget Acquisition History and Plannin	and Planning	g Information (\$ in Thousands)	in Thousand	(§						
Performing Organizations: Contractor or Contract Government Method/Type Performing Activity or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Texas Instruments SS/CPIF Lockheed MIPR to	Dec 96	132,849 8,900	132,849 8,900	52,649 8,900	36,001	13,619	13,413	8,678	8,489	132,849
M Tech SS/SBIR Phase 3,	Mar 97	30,900	30,900	5,000	200	2,000	6,725	11,475	5,200	30,900
re/Crit Textron FPIF	Mar 96	4,184	4,184	2,972	966	0	216			4,184
Support and Management Organizations China Lake NWC MIPR ASC/YH & Other	ons Apr 97	4,371 24,372	4,22 8 24,372	2,590 9,681	200	500 3,711	778 3,304	100	203 1,943	4,371
Test and Evaluation Organizations AFDTC, Eglin PO AFB	Apr 97	5,725	5,725	1,568	1,284	2,633	240			5,725
Government Furnished Property: N/A	4/A									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project				69,521 12,271 1,568 83,360	36,364 3,789 1,675 41,828	15,619 4,211 2,633 22,463	20,354 4,082 240 24,676	20,153 2,986 23,139	13,689 2,146 15,835	176,833 28,743 5,725 211,301
Project 1000			Pag	Page 6 of 6 Pages	5		Exh	Exhibit R-3 (PE 0604727F)	0604727F)	

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PE NUMBER: 0604735F

UNCLASSIFIED

PE TITLE: Combat Training Ranges

RDT&E BUDGET IT	EM JUS	STIFICA	TION SI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE	Fohring, 1907	20
BUDGET ACTIVITY								-	Ji daiy Is	20
ing and Manufacturing	Development	ent	090	PE NUMBER AND TITLE 0604735F Combat Training Ranges	ritle ombat T	raining R	andes		4 6	PROJECT
						,			•	201
COST (\$ in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
									-	
2286 Combat Training Range Equipment	12,744	21,926	20,331	14,875	13,302	14,411	15,195		15,546 Continuing Continuing	Continuing
									,	D
Quantity of RDT&E Articles	0	•	0	0	0	0	0	0	0	C

(U) A. Mission Description and Budget Item Justification

monitoring and control of aircrew air-to-air, air-to-ground, and electronic warfare training along with the ability to record events for crew debriefing and analysis. The Advanced Message Oriented Data Security Module (AMODSM) communications security equipment. The acquisition strategy is competitive, with cost plus contracts. involves software development to increase the number of high activity players as well as the integration and test of the training system comprised of ground equipment This program develops the electronic, telecommunications, and instrumentation equipment/systems for training ranges worldwide. These systems provide real-time This program is in budget activity 5 - Engineering and Manufacturing Development because the Combat Training Ranges (CTR) Program directly contributes to the replace the current Red Flag Measurement and Debriefing System (RFMDS) increasing to 100 the number of instrumented participants, improving aircraft position effectiveness and survivability of US combat forces by developing range instrumentation and training systems to increase the effectiveness of the training spectrum interfaces, software interoperability among service ranges and the encryption of range/aircraft data links. The Air Force continues to participate with the Navy-led aircraft, surface vessel, and submarine training operations. Procurement funding will be used for ground equipment and aircraft pods. This program develops the primary developmental effort is the Nellis Air Combat Training System (NACTS) at Nellis AFB. NACTS is a Global Positioning System (GPS) based system to tracking accuracy, expanding range coverage, multiplying weapons simulations and adding electronic warfare threat/aircrew interaction. The development effort Joint Tactical Combat Training System (JTCTS) development effort to ensure interoperability with AF ranges. JTCTS is a GPS based system to track and record and aircraft pods purchased by procurement funding. This program element also funds the continued development of advanced electronic threats, aircraft/pod from individual aircrew skill training to large-scale exercises.

* AMODSM - Quantity of RDT&E Articles: 71

(U) FY 1996 (\$ in Thousands):

Continue Combat Training Ranges (CTR) basic operating support and evetem accunication and angionaring support	\$7,800 Continue Engineering and Development (EMD) of the Nellis Combat Training System (NACTS) (Contractor: Cubic Defense Surface Continue Engineering and Development (EMD) of the Nellis Combat Training System (NACTS) (Contractor: Cubic Defense Surface Contractor: Cubic Defense	Continue NACTS software design through Final Design Review and incorporate into hardware. Not Senarately Priced (NSD)	Continue proof of concept of Interim - NACTS (NSP)	Continue development of prototype Pod (NSP)	Initiate hardware and software testing (NSP)	Conduct SEEK EAGLE certification program as required (NSP)
\$2,385	\$7,800					
9	3					
1	1	ı	ı	1	1	ı

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Page 1 of 9 Pages

Project 2286

Exhibit R-2 (PE 0604735F)

	RE	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineer	тімтү 1eering а	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604735F Combat Training Ranges	
ן י	(U) \$1,060	Continue Advanced Message Oriented Data Security Module (AMODSM) development with the Navy (Contractor: Lockheed Martin, NJ, Navy	dule (AMODSM) development with the Navy (C	ontractor: Lockheed Martin, NJ, Navy
(U) -	J) \$612		nbat Training Systems (ACTS) programs and Al	? platforms
i į		Establish interface contacts with McDonnell Douglas (F-15) and Lockheed Martin (F-16 Block 40 & 50) Initiate ACTS/Aicraft Combined Interface Control Working Groun	iglas (F-15) and Lockheed Martin (F-16 Block 4	0 & 50)
(U) -	7) \$887	Begin ACTS Software Support Evaluation and Test (ASSET) capability at Eglin to support program office and range users (Contractor: ASI Corp. AL)	ET) capability at Eglin to support program offic	e and range users (Contractor: ASI
ı		Provide organic software and technical support for development programs (NSP)	or development programs (NSP)	
1		Evaluate contractor designs and testing of final system configurations (NSP)	ystem configurations (NSP)	
ı		Analyze system performance to reduce program risk	risk	
l į		Frovide rapid Prototyping to identify disconnects Initiate user support program to collect and come	Prototyping to identify disconnects between user requirements and system performance (NSP)	ance (NSP)
U) -	(U) \$12,744	Total	Proception to concernate contents used problems and determine corrective action (NSP)	on (NSP)
(U) <u>FY</u>	FY 1997 (\$ in Thousands):	Thousands):		
	1) \$2,836	Continue CTR basic operating support, and system acquisition and engineering support for range and threat systems	ition and engineering support for range and thre	at systems
(E) -	006'8\$ (1	Continue EMD of NACTS		
ı		Finalize NACTS software design (NSP)		
Į		Initiate system integration and factory testing (NSP)	SP)	
I		 Complete prototype flight testing (NSP) 		
l		 Initiate weapons simulation integration efforts (NSP) 	ISP)	
99	\$2,600	Begin interoperability improvements with the Navy to include software upgrades and weapons simulations	lude software upgrades and weapons simulations	
(E) -	€9	Finalize AMODSM development with the Navy and procure EMD units for development and test interface kits into ACTS Pods and training	rre EMD units for development and test interfac	kits into ACTS Pods and training
		ranges	•	0
(D) -	\$1,200	Continue development and support of interface between ACTS programs and Air Force platforms (Contractors: F-16 (Lockheed Martin), F-15 (McDonnell Douglas)	CTS programs and Air Force platforms (Contra	ctors: F-16 (Lockheed Martin), F-15
1		Establish interface agreements for F-16A/B, F-16 Block 30, A-10, and B-52 (NSP)	Block 30, A-10, and B-52 (NSP)	
1		Continue Interface Control Working Group activities (NSP)	ities (NSP)	
ı		Establish Interface Memorandum of Agreement (MOA) with 00-ALC for F-16 Block 30, and F-16A/B (NSP)	MOA) with OO-ALC for F-16 Block 30, and F-	16A/B (NSP)
1		Establish MOA with SM-ALC for A-10 (NSP)		
I		Establish MOA with OC-ALC for B-52 (NSP)		
1		Exercise interface contract option with Lockheed Martin and McDonnell Douglas (NSP)	Martin and McDonnell Douglas (NSP)	
Project 2286		Page 2	Page 2 of 9 Pages	Exhibit R-2 (PF 0604735E)
				1 100 1 100 1 1 TO 1 1

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RD	RDT&E BUDGET ITEM JUSTIFICAT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fohring 1007
BUDGET ACTIVITY 5 - Engineering and Manufacturing		PE NUMBER AND TITLE 0604735F Combat Training Ranges	
- (U) \$1,925 - (U) \$2,500 - (U) \$21,926	 Conduct Combined Interface Control Working Group and Technical Interchange meetings (NSP) Continue ASSET efforts Begin efforts to ensure interoperability between the Navy's Joint Tactical Combat Training System (JTCTS) and Air Force unique requirements JTCTS Contractor: Raytheon, NJ (Navy Contract) Total 	Conduct Combined Interface Control Working Group and Technical Interchange meetings (NSP): ASSET efforts for the Combat Training System (JTCT) forts to ensure interoperability between the Navy's Joint Tactical Combat Training System (JTCT) contractor: Raytheon, NJ (Navy Contract)	SP) CTS) and Air Force unique requirements
(U) FY 1998 (\$ in Thousands): - (U) \$3,432 Continue - (U) \$5,000 Complete - (U) \$1,574 Continue - (U) \$1,574 Continue - (U) \$1,600 Continue - (U) \$1,000 Continue - (U) \$1,900 Continue - (U) \$1,925 Continue - (U) \$20,331 Total - (U) \$3,425 Continue - (U) \$3,425 Continue - (U) \$3,425 Continue - (U) \$3,425 Continue - (U) \$1,200 Continue	Continue CTR basic operating support, and system acquisition and engineering support for range and threat systems Complete and test final implementation of secure data link (NSP) Complete and test final implementation of veapons simulation and testing (NSP) Complete implementation of veapons simulation (NSP) Achieve Initial Operational Capability (IOC) April 98 (NSP) Continue interoperability improvements with existing Navy ranges to include software upgrades and weapons simulation development fortinue development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program offices and aircraft manufactures Continue advanced threat system development effort Continue ASSET efforts Continue ASSET efforts Total Continue ASSET efforts Continue development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program offices Continue development Continue development of aircraft interfaces with aircraft/Pod integration for range applications with aircraft program offices Continue ASSET efforts Continue advanced threat system development effort Continue advanced threat system development effort Continue ASSET efforts icquisition and engineering support for range and the secure data link (NSP) In and testing (NSP) Intion (NSP	reat systems apons simulation development reat systems reat systems raft program offices	
Project 2286		Page 3 of 9 Pages	Exhibit R-2 (PE 0604735F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (F	2-2 Exhil	Į €		DATE	100	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604735F Combat Training Ranges	TITLE Combat Tr	aining R	anges		PRO 228	PROJECT
(U) B. Program Change Summary (\$ in Thousands)								
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 10,418 10,418	FY 1997 16,098 23,018	FY 1998 24,020	FY 1999 14,085	<i>ତା ଧ</i>	Total <u>Cost</u> TBD		
a. Cong Reductions b. SBIR	-204 -258	-517 -575						
d. Below Threshold Reprogramming e. Rescissions	+2,852							
(U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 PB	12,744	21,926	-3,689 20,331	+700 14,785	5	TBD		
(U) Change Summary Explanation:								
Funding: Decrease in FY96 is due to the rescission to fund Bosnia and F-16s for Jordan Increase in FY96 is to support the NACTS program Decrease in FY98 fund higher Air Force priorities Increase in FY99 due to an increased Air Force priority for Combat Ranges	Sosnia and F-16s n ority for Combat	for Jordan Ranges						
Schedule: None								
Technical: None								
(U) C. Other Program Funding Summary (§ in Thousands)								
To T	FY 1997 FY 1998 adget Activity: OPAF	8 FY 1999 AF/Electronics &	FY 2000 & Telecommu	FY 2001 inications Ec	FY 2002 quipment, P	FY 2003 rogram Title:	To <u>Compl</u> Combat Trai	Total Cost ning
5,348	12,820 16,282	2 16,432	19,638	34,745	32,510	31,871	Cont	TBD
(U) PE27429F: Appropriation: Aircraft Procurement, AF Budget Activity: Aircraft (A/C) Procurement/Other Production Charges, Program Title: Combat Training Ranges 3,658 21,203 10,110 17,567 18,768 20,188 20,171 20,257 Cont TBD	ctivity: Aircraft (A/ 21,203 10,110	A/C) Procureme 0 17,567	nt/Other Prod 18,768	luction Char 20,188	ges, Progra 20,171	m Title: Comb 20,257	oat Training D	Ranges TBD
Project 2286	Page 4	Page 4 of 9 Pages			Exhibit	Exhibit R-2 (PE 0604735F)	4735F)	
	01	1038						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHE	ET (R-	2 Exhi	bit)		Δ	DATE	February 1997	1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AN 0604735F		LE mbat T	D ТІТLE Combat Training Ranges	Range	- si			2286	1.
(U) D. Schedule Profile										
FY 1996 1 2 3 4 (II) Nellis Air Combat Training System (NACTES)	FY 1997		4	FY 1998 2 3	33	4	-	FY 1999 2 3	4	
× ×	×	×				٠				
Factory Test (U) Complete Site Installation (U) Site Acceptance Testing (U) System Turnover Activity (U) IOC		<	×	××	×××					
(U) Advanced Threats Development (U) Initiate New Acquisition (U) Contract Award (U) Contract Increment				×			×			
(U) Joint Service Range Software Interoperability (U) New Block Upgrade (U) New Block Upgrade Installation and Checkout	××	×	×	××	×	×	×	× ××	×	
 (U) Advanced Message Oriented Data Security Module (AMODSM) (U) Deliver Engineering Development Models (EDMs) (U) Exercise Production Option (U) Deliver Production Units (1/98-1/00) 	× ×		×	×	×	×	×	×	×	
Project 2286	Page 5 of 9 Pages	səst		į	ú	chibit R-	2 (PE 0	Exhibit R-2 (PE 0604735F)		

RDT&E BUDGET II		JUST	FICA	No.	TEM JUSTIFICATION SHEET (R-2 Exhibit)	T (R-2	Exhib	Ē		<u>à</u> _	DATE	February 1997	199	7
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development	ابد		PE NUMBER AND TITLE 0604735F Com	AND TITLI	D TITLE Combat Training Ranges	aining	Range	38			F 2	PROJECT 2286
(U) Aircraft/Pod Interface Development (U) F-16 Block 40 & 50 Interface Contract	×	×	×	×	×	×	×	×	×	×	×	×	×	×
(U) F-15 Interface Contract (U) Initiate Combined Interface Control Working Groun			××	××	××	××	××	××	××	××	××	××	××	××
(U) Establish Interface MOA w/OO-ALC (U) Establish Interface MOA w/SM-ALC (U) Establish Interface MOA w/OC-ALC				×	××	×××	×××	×××	×××	×××	×××	×××	×××	×××
(U) ASSET Facility (U) Begin User Support Operation (U) Contract Award/Option (U) Begin Range Display Software	×		××	×			×							
(U) New Contract Award											×			
Project 2286				Page	Page 6 of 9 Pages	S			Ш	xhibit R	Exhibit R-2 (PE 0604735F)	060473	5F)	
					1040									

RD	RDT&E PROGRAM	GRAM EL	EMENT/	EMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R	(6)	DATE	February 1997	26
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ig and Mani		Development	ent	PE NUMBER AN 0604735F		at Trainin	D ТІТLE Combat Training Ranges			PROJECT 2286
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown	(\$ in Thousand	ds)								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Nellis Air Combat Training System (NACTS) (U) Advanced Message Oriented Data Security Module	bat Training Syssage Oriented D	stem (NACTS) ata Security M	odule	7,5	7,800	8,900	5,000	-	0 0		_
(AMODSM) (I) Aircraft Interface Development	ce Develonmen			•	213		•	•			
(U) Advanced Threat Development	at Development			•	710 0	1,200	1,400 6.000	1,200	5 C		
(U) Joint Service Interoperability Improvements	nteroperability Is	mprovements			0	2,600	1,574	2,325	· •		
(U) ASSET Efforts	ASSET Efforts			~	887	1,925	1,925	1,925	~		
(U) JICIS interoperability Efforts (II) Combat Training Ranges Program Office Operation	erability Efforts 19 Ranges Progr	em Office One	ration	Ċ	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2,500	1,000	- (·		
Support	9011009		T COMPANIE	,	66	2,030	3,432	3,423	•		
(U) Total				12,7	12,744	21,926	20,331	14,875	15		
(U) B. Budget Acquisition History and Planni	quisition Histor	y and Plannin	ng Information (\$ in Thousands)	ı (\$ in Thousa	(spu						
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity FAC	Project Office FAC	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
			2		1 1 1220	0661 13	r i 1997	FY 1998	F Y 1999	Complete	Program
Product Development Organizations Cubic Defense C/CPAF/FFP	nt Organizations C/CPAF/FFP		26,704		11,097	6,484	906'9	2,223	0	0	26.704
Kaytheon Lockheed Martin	Navy Contr Navy Contr	Mar95 FY95			0 1 706	0	1,900	009	0	0 0	2,500
ASI	S/CPAF	Sep96			0	350	1,000	1,000	1,000	Cout	3,830 TBD
Advanced Threats (Contractor TBD)	Unknown	Jan98			0	0	0	5,500	5,500	20,000	31,000
Project 2286				I	Page 7 of 9 Pages	iges		П	Exhibit R.3 (DE OGO4735E)	0604735E)	
									7 1 2 1 2	10001	1

RD	RDT&E PROGRAM EL	SRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	JWN (R-		DATE	February 1997) 197
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ig and Manu	ıfacturing	Developme	ent	PE NUMBER AND TITLE 0604735F Com	SE Comb	D ТITLE Combat Training Ranges	y Ranges		4 8	PROJECT 2286
Contractor or Government Performing <u>Activity</u> Joint	Contract Method/Type or Funding Vehicle Navy	Award or Obligation <u>Date</u> Mar98	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996 0	Budget FY 1997 1,000	Budget FY 1998 576	Budget FY 1999 1,325	Budget to Complete Cont	Total <u>Program</u> TBD
interoperability Aircraft Interface	Contract Through MOAs with ALCs & Aircraft SPO Contractors	Jun96			0	412	800	868	800	Cont	ТВО
Support and Management Organizations ASC/WMR, Various Eglin AFB, FL NAWC, Various	rement Organizat Various Various	tions			1,824	3,063	4,826	5,492	4,095	Cont	TBD
China Lake, CA Test and Evaluation Organizations ASC/WMR, Various	<u>1 Organizations</u> Various				470	935	2,290	2,702	725	Cont	TBD
Eglin AFB, FL 46 Test Wing, Eglin AFB, FL	Various					640	640	640	640	Cont	TBD
Total Project					15,097	12,744	21,926	20,331	14,785	Cont	TBD
Project 2286				P_{ℓ}	Page 8 of 9 Pages	es		Exh	Exhibit R-3 (PE 0604735F)	0604735F)	

RDT&E PROGRAM EL	AM ELEMENT/PROJECT COST BREAKDOWN (R-3)	CT COST B	REAKDO	WN (R-3		DATE E.	February 16	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing		PE NUMBER AND TITLE 0604735F Com	AND TITLE	PE NUMBER AND TITLE 0604735F Combat Training Ranges	Ranges		-	2286
(U) B. Budget Acquisition History and Plannin	Planning Information Continued (\$ in Thousands)	(\$ in Thousands)						
Government Furnished Property: NA								
Contract Method/Type Awai Item or Funding Oblig Description Vehicle Date	Award or Obligation Delivery <u>Date</u> <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		12,803 1,824 470	8,106 3,063 1,575	12,870 6,126 2,930	10,797 6,192 3,342	8,625 4,795 1,365	Cont	TBD TBD
Total Project		15,097	12,744	21,926	20,331	14,785	Cont	TBD
Project 2286		Page 9 of 9 Pages			Fxhir	Exhibit R-3 (DE 0604735E))604736E)	

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PE NUMBER: 0604740F

UNCLASSIFIED

PE TITLE: Computer Resources Management Technology (CRMT)*

	RDT&E BUDGET IT	EM JUS	STIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	R-2 Exhi	bit)		DATE Fel	February 1997	97
BUC 5.	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	evelopm	ent.	PE N	PE NUMBER AND TITLE 0604740F Computer Technology (CRMT)*	TITLE Somputer (CRMT)*	PENUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	es Mana	gement		
	COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	8,688	1,862	1,459	1,485	1,652	1,786	1,731	1,733	1,733 Continuing Continuing	Continuing
252	2522 Advanced Computer Technology Transition	6,120	1,228	725	869	843	996	1,731	1,733	Continuing	Continuing
252	2523 Architectural Implementation	699	634	734	787	809	820	0	0	TBD	TBD
252	2524 Reuse and Component Support	1,899	0	0	0	0	0	0	0	TBD	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
111)	Mission Description	2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	1								

This Budget Activity 5, Engineering particular instantiation, namely command and control architectures, of reusable technology which are available or can be developed in the near-term. After FY 2001, this project should be mature establishes a reuse library. CARDS was a Congressional special interest item for which Congress effective methodology to support transitioned capability. Project 2523 initially addresses a technologies/processes inherent in operating and maintaining a domain central repository of quality of computer systems development and support. This is the only Air Force program for software, software algorithms, and reusable technologies. The Central Archive for Reusable and Manufacturing Development, program reduces software life cycle costs and improves the transitioning software technology across the board within the Air Force, rather than into specific acquisition programs. Project 2522 establishes the foundational elements of an Defense Software (CARDS) program in Project 2524 develops a reuse blueprint for DoD and enough for ongoing use by other developmental programs. Project 2524 addresses the Description and Budget Item Justification: added funds in FY 1996. 9

*Correct name for this PE is Computer Resource Technology Transition (CRTT); however, the database still reflects the old name, CRMT. Action is being taken to correct the database

Page 1 of 13 Pages

Exhibit R-2 (PE 0604740F)

1045

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	SHEET	R-2 Exhibi	 	DATE Cohmon 4007
BUDGET ACTIVITY 5 - Engineering ar	вирдет АСТИІТУ 5 - Engineering and Manufacturing Development	a. • ·	PE NUMBER AND TITLE 0604740F Comp	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	esources Ma	nagement
(U) B. Program	Change Summary (\$ in	Thousands) :	آ ا			
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value		FY 1996 8,746 9,166	FY 1997 1,956 1,956	FY 1998 2,107	FY 1999 2,139	Total <u>Cost</u> Cont
a. Congressional/General Reductions b. SBIR c. Omnibus/Other Above Threshold Re (U) Adjustments to Budget Years (U) Current Budget Submit/FY 1998 PB	 a. Congressional/General Reductions b. SBIR c. Omnibus/Other Above Threshold Reprogrammings Adjustments to Budget Years Current Budget Submit/FY 1998 PB 	-180 -200 -98 8,688	-44 -48 -2 -3 1,862	-648 1,459	-654 1,485	Cont
(U) Change Summ Funding: Air Force Reuse and program, i	Summary Explanation: ng: Changes since the previous Presider orce priorities. Congress added \$5 mill and \$2 million for the Central Archive am, in FY 1996, which explain the percei	is Fled	President's \$5 million Archive for	Budget are for Softwar Reusable De decrease in	e due to bu are Design Defense Sos in FY 1997	Budget are due to budget constraints and for Software Design for Reliability and Reusable Defense Software (CARDS) decrease in FY 1997 and out.
Schedule:	e: Not Applicable.					
Technical:	al: Not Applicable.					
(U) C. Other	Other Program Funding Summary:	Not	Applicable.			
(U) D. Schedule	ule Profile: Not Applicable.	le.				
		Page 2	Page 2 of 13 Pages		EX	Exhibit R-2 (PE 0604740F)

RDT&E BUDGET IT	EM JUS	STIFICA	TION S	TEM JUSTIFICATION SHEET (R-2 Exhibit)	8-2 Exhi	bit)		DATE FA	February 1997	260
вирбет Астилту 5 - Engineering and Manufacturing D	Development	nent	₩ 6 F	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	TITLE Somputer (CRMT)	Resource	ces Mana	gement		2522
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2522 Advanced Computer Technology Transition	6,120	1,228	725	969	843	996	1,731	1,733	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification: Develops, thratire Force major commands (MAJCOMs), tools and technologies for improving development environment and processes, and accelerates transition of soft users. Emphasis is on identifying software technology items that provide investment and setting up receptor groups at the user organizations that productization.	and Budget Ite JCOMs), tools a processes, and fying software ceptor groups a	dget Ite tools a es, and oftware	and technology technology at the user	Budget Item Justification: Develops, through), tools and technologies for improving the ssses, and accelerates transition of software software technology items that provide the organizations that supp	tion: Develops, thragies for improving transition of soft items that provide organizations that	elops, improvi on of s t provi ions th	through ng the oftware de the at supp	ion: Develops, through interaction with jies for improving the software transition of software technology to the tems that provide the best return in organizations that support transition an	ction wie e logy to turn in nsition	ith the and
 (U) FY 1996 (\$ in Thousands): (U) 376 Continued to develop technology transition infrastructure within the Air Force. (U) 140 Continued funding Joint Logistics Commanders (JLC) activities in software received improved and continued to implement Air Force-wide metrics repository. (U) 878 Improved and continued to implement Air Force-wide metrics repository. (U) 4,726 Developed tools for new software design method. (U) 6,120 Total 	chology transition infrast chnology transition infrast Logistics Commanders (. I to implement Air Force-w software design method.	sition infrasti nmanders (J Air Force-w ign method.	ructure with LC) activitie ide metrics	nds): chnology transition infrastructure within the Air Force. Logistics Commanders (JLC) activities in software re-engineering and modernization of obsolescent, expensive software. I to implement Air Force-wide metrics repository.	ce. re-engineeri	ng and mode	ernization of	obsolescent	, expensive :	software.
 (U) FY 1997 (\$ in Thousands): (U) 323 Continue to develop technology transition infrastructure within the Air Force. (U) 129 Continue funding JLC activities in software re-engineering and modernization of obsolescent, expensive software. (U) 776 Improve and continue to implement Air Force-wide metrics repository. (U) 1,228 Total 	যবঙ) : nnology transition infrastructure within the Air stivities in software re-engineering and moder implement Air Force-wide metrics repository.	tion infrastru ware re-engi r Force-wide	icture withir ineering an	n the Air Force d modernizati pository.	e. on of obsole:	scent, expen	sive softwan	σi		
Project 2522			Page 3 of	Page 3 of 13 Pages			Exhibit	Exhibit R-2 (PE 0604740F)	304740F)	

RDT&E BUDGET IT	Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	PROJECT ement 2522
(U) EY 1998 (\$ in Thousands): - (U) 182 Continue to develop technology transition infrastructure within the Air Force. - (U) 72 Continue funding Joint Logistics Commanders (JLC) activities in software re - (U) 471 Improve and continue to implement Air Force-wide metrics repository. - (U) 725 Total	(\$ in Thousands): Continue to develop technology transition infrastructure within the Air Force. Continue funding Joint Logistics Commanders (JLC) activities in software re-engineering and modernization of obsolescent, expensive software. Improve and continue to implement Air Force-wide metrics repository. Total	olescent, expensive software.
 (U) FY 1999 (\$ in Thousands): (U) 175 Continue to develop technology transition infrastructure within the Air Force. (U) 70 Continue funding JLC activities in software re-engineering and modernization. (U) 453 Improve and continue to implement Air Force-wide metrics repository. (U) 698 Total 	(\$ in Thousands): Continue to develop technology transition infrastructure within the Air Force. Continue funding JLC activities in software re-engineering and modernization of obsolescent, expensive software. Improve and continue to implement Air Force-wide metrics repository. Total	
Project 2522	Page 4 of 13 Pages	Exhibit R-2 (PE 0604740F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (F	3-2 Exhibi	E C	DATE February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Computer Technology (CRMT)*	TITLE Somputer R (CRMT)*	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*		PROJECT 2522
(U) B. Program Change Summary (\$ in Thousands)	nds):				
(U) Previous President's Budget 6,177 (U) Current Budget Submit/FY 1998 PB 6,120	FY 1997 1,292 1,228	FY 1998 1,367 725	FY 1999 1,345 698	Total Cost Cont Cont	
(U) Change Summary Explanation: Funding: Changes since the previous P Air Force priorities.	President's B	Budget are	due to budget	dget constraints	and
Schedule: Not Applicable.					
Technical: Not Applicable.					
(U) C. Other Program Funding Summary: Not Applicable	Applicable.				
(U) D. Schedule Profile: Not Applicable.					
Project 2522	Pase 5 of 13 Pases		ù	Evhihit R.2 (DE OGO4740E)	

		RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST	T BREAKE	OWN (R-3		DATE Fahrismy 1997	
вирсет аститу 5 - Engineer	ACTIV gine	ing and Manufacturing I	PE NUI 0604 Tect	PE NUMBER AND TITLE 0604740F Computer Technology (CRMT)*	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	rces Mana	Didaiy .	2522
(<u>a</u>)	A.	Project Cost Breakdown (\$ in Thousands):	usands): FY 1996	FY 1997	FY 1998	FY 1999		
(U) Deve (U) Softw	lop te vare r	(U) Develop technology transition infrastructure (U) Software re-engineering and modernization (Joint Logistics Commanders (11 C) activities	376 140	323 129	182 72	175 70		
(U) Air Fo (U) Devel (U) Total	orce-	ory e design method	878 4,726 6,120	776 0 1,228	471 0 725	453 0 698		
<u>(a</u>	ď.	Budget Acquisition History and Plan	Planning Ir	Information		Not Applicable.		
(<u>a</u>	ບ່	Funding Profile: Not Applicable.						
Œ.	Ð.	Schedule Profile: Not Applicable.						
Project 2522	522		Page 6 of 13 Pages	Danos		: :: :: :: ::		
			1050	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7		EXUIDIE	EXNIBIT K-3 (PE U604/40F)	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE	Tob.::01	107
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ent	PE N 060	PE NUMBER AND TITLE 0604740F Com	PENUMBER AND TITLE 0604740F Computer Technology (CRMT)*	r Resour	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	gement		2523
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2523 Architectural Implementation	699	634	734	787	808	820	0	0	TBD	TBD
(U) A. Mission Description and Budget Item Justification: This project develop prototyping and interaction with Air Force users, a tailorable architecture for command and control applications. The architecture will address the component command centers (e.g., message processing, display processing, user interfaces) on the migration of multilevel computer security applications/technologies into operations. This project is needed to mitigate development time associated witlacquisitions so that the system is not obsolete when delivered. After FY 2001, should be mature enough for ongoing use by other developmental programs.	cion and Budget Item Justicon with Air Force users, cations. The architect sssage processing, displaievel computer security is needed to mitigate system is not obsolete ver ongoing use by other		et Item Justification Force users, a tailon e architecture will sing, display process er security applicati o mitigate developmer t obsolete when deliv se by other developme	a tailorable cure will addresty processing, applications/tlevelopment tinhen delivered, developmental	r Item Justification: This project orce users, a tailorable architectuarchitecture will address the coning, display processing, user intersecurity applications/technologie mitigate development time associat obsolete when delivered. After FY by other developmental programs.	s project architects the couser intechnologie associal After FY	Item Justification: This project develops, through rapice users, a tailorable architecture for support of architecture will address the components common to most of display processing, user interfaces) and will focus security applications/technologies into Air Force intigate development time associated with command center bsolete when delivered. After FY 2001, this project by other developmental programs.	develops, through tre for support of aponents common to faces) and will foss into Air Force ted with command ce 2001, this project	s, through support of common to and will for Air Force command central command	igh rapid of to most focus ect
 (U) FY 1996 (\$ in Thousands): (U) 489 Updated tailorable command center architecture and continued to qualify software components. (U) 180 Continued identifying multilevel security issues/solutions, testing, analysis, and technology transition. (U) 669 Total 	ds): and center ar tilevel securit	chitecture a y issues/sol	nd continuec utions, testin	d to qualify s	oftware com	ponents. ogy transitior	÷			
(U) FY 1997 (\$ in Thousands): (U) 434 Develop architecture for Command Center Product Line (CCPL). (U) 200 Qualify products for CCPL. (U) 634 Total	ds) : Command Ce	nter Produci	t Line (CCPL							
(U) FY 1998 (\$ in Thousands): (U) 444 Develop architecture for CCPL. (U) 290 Qualify products for CCPL. (U) 734 Total	1 <u>s)</u> : :CP <u>L</u> .									
Project 2523			Page 7 of 13 Pages	3 Pages			Exhibit	Exhibit R-2 (PE 0604740F)	304740E)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibi	₽	DATE	Echnism, 4007
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	गार omputer R (CRMT)*	esources N	lanagement	PROJECT 2523
(U) FY 1999 (\$ in Thousands): - (U) 391 Develop architecture for Command Center Product Line (CCPL). - (U) 396 Qualify products for CCPL. - (U) 787 Total	(CCPL).				
(U) B. Program Change Summary (\$ in Thousands)	: :				
(U) Previous President's Budget 669 (U) Current Budget Submit/FY 1998 PB 669	FY 1997 664 634	FY 1998 740 734	FY 1999 794 787	Total Cost Cont TBD	
(U) Change Summary Explanation: Funding: Changes since the previous Pre- Air Force priorities.	President's Buc	Budget are	due to bu	budget constraints	nts and
Schedule: Not Applicable.					
Technical: Not Applicable.					
(U) C. Other Program Funding Summary: Not Applicable	olicable.				
(U) D. Schedule Profile: Not Applicable.					
Project 2523	Page 8 of 13 Pages	į	ùi	Exhibit R-2 (PE 0604740F)	OF)
	1052				5

BUDGET ACTIVITY 5 - Engineering and Manufacturing Development G04740F Compute O604740F Compute O604744F Compute O604740F Co6	ECHNOLOGY (CRM1 ECHNOLOGY (CRM1 FY 1997 0 0 434 200 634 Information:	ter Resources Man T)* FY 1998	PROJECT 2523
\$ in T] ry and licable	: FY 1997 0 0 434 200 634 Information:	998 FY 1999 0 (444 39· 290 396 734 78:	9 0 7 8
ry and licable		0 (444 39° 290 39¢ 734 78;	9 4 9 0
ry and licabl∉		0 444 39' 290 396 734 78; ot Applicable	0 4 9 4
organistion History and Profile: Not Applicable Profile: Not Applicable		444 397 290 396 734 787 ot Applicable	7 2.
cquisition History and Profile: Not Applicable Profile: Not Applicable		290 396 734 781 781 781	9.4
B. Budget Acquisition History and C. Funding Profile: Not Applicable D. Schedule Profile: Not Applicable		ot Applicable	o.
C. Funding Profile: N D. Schedule Profile:			
D. Schedule Profile:			
Project 2523.	: 9 of 13 Pages	Ex	Exhibit R-3 (PE 0604740F)

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February 1997	PROJECT 2523)F)	
DATE Februa	lanagement	Exhibit R-3 (PE 0604740F)	
T&E PROGRAM ELEMENT/PROJECT (BUDGET ACTIVITY 5 - Engineering and Manufacturing Development Technology (CRMT)*	Project 2523 Page 10 of 13 Pages Exh	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	R-2 Exhi	lbit)		DATE	Eobriga, 4007	700
вирвет Астилту 5 - Engineering and Manufacturing D	Development	ent	PEN 060	PE NUMBER AND TITLE 0604740F Comp	PENUMBER AND TITLE 0604740F Computer Technology (CRMT)*	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	ces Mana	gement	oluary 1	2524
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2524 Reuse and Component Support	1,899	0	0	0	0	0	0	0	TBD	TBD
(U) A. Mission Description and Budget Item Justification: This project develops a chowledge for establishing software reuse libraries that support specific application of these libraries will support system engineers through the reuse of large-scale software components. This program is needed so that the Air Force can reuse software that it purchased by developing a central repository of software and software algorithms. Resoftware will result in lower software development costs, faster software development and lower software development risks. The Central Archive for Reusable Defense Software congressional special interest item for DoD and establishes a reuse library. CARDS was congressional special interest item for which Congress added funds in FY 1996. (U) FY 1996 (\$\frac{1}{2}\$ in Thousands): - (U) 1899 Update and maintain software reuse library for command, control, communications, computer, and intelligence (C41) systems. (U) FY 1997: Not Applicable. (U) FY 1999: Not Applicable.	and Budget oftware reus system eng: needed so the software of the software of the strict for I s	reuse Jenses so that so that ce deve or DoD for whi	Libraries three the Arety of selopment and est che mand, continued the continued of the con	ind Budget Item Justification: Thware reuse libraries that supplystem engineers through the reuseded so that the Air Force carral repository of software and software development costs, fast risks. The Central Archive for risks. The Central Archive for risks. The Contral Archive for risks. The Contral Archive for risks and establishes a item for which Congress added item for which congress added. S): are reuse library for command, control, communications e.		m: This project develops support specific applications of large-scale sottense of large-scale sottense of large-scale sottense software algorithms. faster software developing or reuse library. CARDS a reuse library. CARDS ded funds in FY 1996.	coject develops secific applicate large-scale software that a software developmed ble Defense Software in FY 1996.	This project develops a documented support specific application domains. reuse of large-scale software can reuse software that it has alread nd software algorithms. Reusing faster software development schedules for Reusable Defense Software (CARDS) a reuse library. CARDS was a ed funds in FY 1996.	docum tre has has usin sch re (lented already g edules, CARDS)
Project 2524			Page 11 of 13 Pages	13 Pages			Exhibit	Exhibit R-2 (PE 0604740F)	304740F)	

		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE February 1997	y 1997
8UDGE 5 - E	BUDGET ACTIVITY 5 - Engineer	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Computer Technology (CRMT)*	Computer F (CRMT)*	PENUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	anagement	PROJECT 2524
(£)	æ.	Program Change Summary (\$ in Thousands)	(sp):				
<u>5</u> 5	revious urrent {	(U) Previous President's Budget (U) Current Budget Submit/FY 1998 PB 1,899	FY 1997 0 0	FY 1998 0	FY 1999 0 0	Total Cost Cont TBD	
(n)	Chi	Change Summary Explanation: Funding: The Central Archive for Reusable reuse blueprint for DoD and establishes a special interest item for which Congress	le Defen a reuse s added	se Software library. (funds in FY	(CARDS) CARDS was 1996.	program develops a Congressional	os a I
	w	Schedule: Not Applicable.					
	H	Technical: Not Applicable.					
<u>(a</u>	ບ່	Other Program Funding Summary: Not Ag	Not Applicable.				
<u>(a</u>	Ď.	Schedule Profile: Not Applicable.					
Projec	Project 2524	Pag	Page 12 of 13 Pages		П	Exhibit R-2 (PE 0604740F)	0F)
			1056				

		RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDOWN (R-3)	DATE February 1997	
8UDGE 5 - E	вироет Астилт 5 - Engineer	вирсет АСТИЛТY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604740F Computer Resources Management Technology (CRMT)*	PROJECT 2524	L CI
(<u>n</u>)	A.	Project Cost Breakdown: Not Applicable.	le.		
Đ	m.	Budget Acquisition History and Plann	Planning Information: Not Applicable.		
<u>a</u>	ບ່	Funding Profile: Not Applicable.			
<u>e</u>	Ö.	Schedule Profile: Not Applicable.			
Projec	Project 2524	Pa	Page 13 of 13 Pages Exhib	Exhibit R-3 (PE 0604740F)	7
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PE NUMBER: 0604750F

UNCLASSIFIED

PE TITLE: Intelligence Equipment

5 - Engineering and Manufacturing Development FY 1997 FY 1998 FY 1999 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Cost to Complete Total Cost 2053 National Air Intel Center 1,256 1,167 1,287 1,326 1,374 1,398 1,431 Cont TBI Quantity of RDT&E Articles Actual 1,256 1,167 1,287 1,326 1,403 1,374 1,398 1,431 Cont TBI	RDT&E BUDGET IT	FEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	t-2 Exhi	bit)		DATE Fe	February 1997	26(
Thousands) FY 1996 Actual FY 1997 Estimate FY 1998 Estimate FY 1999 Estimate FY 2000 Estimate FY 2001 Estimate FY 2002 Estimate FORTINATE Cost to Complete Total Complete 1,256 1,167 1,287 1,326 1,403 1,374 1,398 1,431 Cont les 0 0 0 0 0 0 0 0	ing and Manufacturing	Jevelopm	ent	PE NI 090	JMBER AND 4750F	TITLE ntelligeno	se Equipi	ment		4 2	ROJECT : 053
1,256 1,167 1,287 1,326 1,403 1,374 1,398 1,431 Cont les	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Quantity of RDT&E Articles 0 0 0 0 0 0 0 0 0 0	2053 National Air Intel Center	1,256								Cont	TBD
	Quantity of RDT&E Articles		0	0	0	a	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Intelligence Equipment (IE) provides continuing development and upgrades of threat analysis capabilities of the National Air Intelligence Center (NAIC) and Air Force and non-DOD customers. In the past few years, customers' requirements have been more sophisticated, dictating more detailed and timely intelligence not only in the technology regime but also in the economic, world crisis, and political arenas. IE provides NAIC and AFIWC with the tools necessary to produce timely intelligence Information Warfare Center (AFIWC). Both organizations are tasked with providing detailed foreign technology intelligence information to a variety of both DOD of foreign weapon systems and develops the tools to model and assess foreign airborne and aerospace systems. This effort is Budget Activity 5, Engineering & Manufacturing Development, because the program develops and inserts new technology into existing systems and models to keep existing systems current.

FY 1996 (\$ in Thousands)

- Continue Model Synthesis Interface.
- Complete flexible IR Signature Techniques FIST.
- Perform Air Surveillance C3 web-based simulation. 9
- Complete Man-In-The-Loop Engagement Simulation. (U) \$ 158 (U) \$ 65 (U) \$ 413 (V) \$1,256
- Complete Threat Engagement Analysis Model (TEAM) Upgrades
 - Perform Advanced Migration Tools

FY 1997 (\$ in Thousands)

- Continue Model Synthesis Interface.
- Initiate Advanced Communication Network Modeling
 - Initiate High Power Microwave Device Modeling
- Perform Low Observables Design Synthesis Tools (LODST) Upgrades for UAV Initiate Advanced Infrared Countermeasures Assessment \$ 250 333
 - **Total** \$ 269 \$1,167

Project 2053

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Page 1 of 6 Pages

Exhibit R-2 (PE 0604750F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2	Exhibit)	DATE	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604750F Intell	PE NUMBER AND TITLE 0604750F Intelligence Equipment		PROJECT 2053
 (U) FY 1998 (\$ in Thousands) (U) \$ 180 Complete Model Synthesis Interface. (U) \$ 400 Continue Advanced Communication Network Modeling (U) \$ 400 Complete High Power Microwave Device Modeling (U) \$ 307 Complete Advanced Infrared Countermeasures Assessment (U) \$1,287 Total 	oling sssment			
 (U) FY 1999 (\$\frac{\psi}{\psi}\$ in Thousands). (U) \$\frac{\psi}{\psi}\$ 120 Continue Advanced Communication Network Modeling. (U) \$\frac{\psi}{\psi}\$ 400 Initiate Electromagnetic Antenna modeling. (U) \$\frac{\psi}{\psi}\$ 356 Initiate Electro optic Tool Set. (U) \$\frac{\psi}{\psi}\$ 450 Initiate Reference Threat Package Generation System. (U) \$\frac{\psi}{\psi}\$ 1,326 Total 	oling m			
(U) B. Program Change Summary (\$ in Thousands)				
(U) FY97 President's Budget (U) Appropriated Value (II) Adjustments to A purconisted Value	FY 1996 1,255 1,211 1,294 1,211	<u>FY 1998</u> 1,298	<u>FY1999</u> 1,338	Total <u>Cost</u> TBD
(U) FY 1998/1999 Biennial Budget	-25 -25 -19 -13 1,167	-11	-12 1,326	TBD
Project 2053	Page 2 of 6 Pages		Exhibit R-2 (PE 0604750F)	E 0604750F)

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604750F Intelligence Equipment	PROJECT 2053
(U) Change Summary Explanation: Not Applicable		
(U) C. Other Program Funding Summary (\$ in Thousands) - Not Applicable	v	
(U) D. Schedule Profile		
$\frac{\text{FY } 1996}{1 2 3 4 1}$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{\text{FY 1999}}{2}$ 4
	×	
(U) Kadio Frequency Weapons Modeling A		
(U) Flexible Infrared Signature X		
Techniques complete		
(U) Man-In-The-Loop Engagement X		
Summanum Complete (U) Threat Engagement Analysis Model		
(U) Air Surveillance C3 - web based	×	
simulation complete		
(U) Advanced Migration Tools complete	×	
(U) Start Advanced Communication	×	
Network Modeling	,	
(U) Complete Low Observables Design	×	
Synthesis Tools Upgrades for UAVs	>	
(c) Complete right rower when when Device Modeling	*	
(1) Complete Advanced Infrared	×	
Countermeasures Assessment		
(U) Start Electro Magnetic Modeling		×
(U) Start Electro Optic Tool Set		×
(U) Start Reference Threat Package		×
Generation System		
Project 2053	Page 3 of 6 Pages Exhibit	Exhibit R-2 (PE 0604750F)

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RDT&E PROGRAM EL		EMENT/PROJECT (COSTE	COST BREAKDOWN (R-3)	OWN (R	(F)	DATE		
BUDGET ACTIVITY 5 - Engineering and Manufacturing			PE NUMBE 060475	PE NUMBER AND TITLE 0604750F Intelligence Equipment	gence Eq	uipment	<u>-</u>	rebruary 1997 PROJ 205	997 PROJECT 2053
(U) A. Project Cost Breakdown (\$ in Thousands)	in Thousands)								
		FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Model Synthesis Interface(U) RF Weapons Modeling		148		180	180				
(U) Flexible IR Signatures Techniques (FIST) (U) Man-In-The-Loop Engagement Simulation (M (U) Threat Engagement Analysis Model (TEAM) (U) Air Surveillance C3 - web based simulation (II) Advanced Mirretica Tools	(FIST) nulation (MILES) el (TEAM) Upgrades mulation	196 158 65 276							
(U) Advanced Communication Network Modeling	rk Modeling	413		150	400	120	0		
(U) High Power Microwave Device Modeling	odeling			250	9				
(U) Advanced Infrared Countermeasures Assessment	res Assessment			318 269	400 307				
(U) Electromagnetic Modeling (U) Electro Optic Tool Set (U) Reference Threat Package Generation System	ion System					400 356	0 9 0		
(U) Total		1,256		1,167	1,287	1,326	•		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	and Planning Informati	on (\$ in Thousand	(ত্র						
Performing Organizations:									
Contractor or Contract Government Method/Type Av Performing or Funding Of Activity Vehicle	Award or Performing Obligation Activity <u>Date</u> <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Organizations GRCI CPFF 30 93-C-0261/0	30 Sep 93			118	120	120	0	Cont	TBD
Project 2053		Page	Page 4 of 6 Pages	Se	j	Exh	Exhibit R-3 (PE 0604750F)	0604750F)	
			1062						

RD	RDT&E PROGRAM E	GRAM EL	EMENT/F	EMENT/PROJECT		REAKD(COST BREAKDOWN (R-3)	3)	DATE	February 1997	790
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manı		Development	in the	PE NUMBEI 060475	PE NUMBER AND TITLE 0604750F Intellig	PE NUMBER AND TITLE 0604750F Intelligence Equipment	ipment			PROJECT 2053
Contractor or	Contract										
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Rudget	Rudget to	Total
Activity Rockwell	Vehicle CPFF	Date 1 Apr 93	EAC	EAC	FY 1996	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	Complete Cont	Program TBD
Photon Research	CPFF	30 Sep 93				161	0	0	0	Cont	TBD
GRCI 93-C-0261/1	CPFF	24 Apr 93				120	0	0	0	Cont	TBD
GRCI/Sverdrup 93-C-0261/11	CPFF	16 Mar 95				45	0	0	0	Cont	TBD
McDonnell Douglas F33657-		30 May 96				354	0	0	0	Cont	TBD
94-D-2277 GRCI/U of FL 93-C-0261/22	CPFF					250	0	0	0	Cont	TBD
Contractor TBD Rome Laboratory						208	857 190	967 200	1,116	Cont	TBD
Support and Management Organizations - N/A	tement Organizat	tions - N/A									
Test and Evaluation Organizations - N/A	Organizations -	N/A									
Project 2053				Pa	Page 5 of 6 Pages	S	İ	Exhi	Exhibit R-3 (PE 0604750F)	0604750F)	
					0,0.						

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Per Number And Title Per Number And Title	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST BE	ZEAKDC	WN (R-	3	DATE	February 1997	265
Total	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER 0604750	AND TITLE F Intellig	ence Equ	ipment			ROJECT 2053
Total Method/Type Award or Prior to Budget Property: Contract Method/Type Award or Obligation Delivery Vehicle Bodget Date Prior to Budget Property - N/A Management Property - N/A Management Property - N/A duct Development popt and Management and Management and Management Property - N/A put and N	(U) B. Budget Acquisition History and Planning Information Contin	ued (\$ in Thousands)						
Contract	Government Furnished Property:							
Management Property - N/A Management Property - N/A Munagement Property - N/A Munagement 7,533 1,256 1,167 1,287 1,326 Cont and Evaluation 1,286 1,167 1,287 1,326 Cont Page 6 of 6 Pages Exhibit R-3 (PE 0604750F)	Contract Method/Type Award or or Funding Obligation ription Vehicle Date	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Management Property - N/A duation Property - N/A duct Development port and Management and Management and Evaluation 7,533 1,256 1,167 1,287 1,326 Cont of and Evaluation t 1,256 1,167 1,287 1,326 Cont of A Pages Fage 6 of 6 Pages Exhibit R-3 (PE 0604750F) 1064 Exhibit R-3 (PE 0604750F)	Product Development Property - N/A							
duct Development 7,533 1,256 1,167 1,287 1,326 Cont port and Management tand Management 1,256 1,167 1,287 1,326 Cont st and Evaluation 1,256 1,167 1,287 1,326 Cont Page 6 of 6 Pages Exhibit R-3 (PE 0604750F)	Support and Management Property - N/A							
duct Development 7,533 1,256 1,167 1,287 1,326 Cont st and Evaluation 1 1,256 1,167 1,287 1,326 Cont st 1,256 1,167 1,287 1,326 Cont st 1,256 1,167 1,287 1,326 Cont st 1,256 1,167 1,287 1,326 Cont	Test and Evaluation Property - N/A							
1,256 1,167 1,326 Cont Page 6 of 6 Pages Exhibit R-3 (PE 0604750F) 1064	Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	7,533	1,256	1,167	1,287	1,326	Cont	TBD
Page 6 of 6 Pages 1064	Total Project		1,256	1,167	1,287	1,326	Cont	TBD
Page 6 of 6 Pages 1064					·			
	Project 2053	Page 6 of 6 Pages	ř.		Exhi	bit R-3 (PE	0604750F)	
		1064					100	

UNCLASSIFIED

PE NUMBER: 0604754F

UNCLASSIFIED

PE TITLE: Joint Tactical Information Distribution System

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fel	February 1997	797
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	lent	PE N OGC	PE NUMBER AND TITLE 0604754F Joint System	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	ical Info	rmation [Distribution		PROJECT P771
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
P771 JTIDS	9,077	29,321	8,557	8,616	9,155	9,402	9,577	9,795	9,795 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Joint Tactical Information Distribution System (JTIDS) effort provides the Army, Navy, Air Force, and Marine Theater Command and Control (C2) elements with a secure, JTIDS permits rapid and secure exchange of essential command control, and status information with all terminals in the tactical theater. Host platforms (i.e. E-3, E-8, F-15, RIVET JOINT, ABCCC, MAOC, and MCE) program and budget for JTIDS production terminals. This program is in budget activity 5 - Engineering and Manufacturing Information Link (TADIL) designated Link-16, and is synonymous with the TADIL J message standard. The JTIDS family of terminals (Class 2 and 2H for the Air Force, jam-resistant, high capacity data link communications system for use in a tactical combat environment. JTIDS is the communications component of the Tactical Digital Navy and Marine Corps; and 2M for Army) is a joint development program which employs Time Division Multiple Access (TDMA), and spread spectrum techniques. Development because it supports development of integration solutions, interoperability, sustainment capabilities, and test efforts.

(U) FY 1996 - (U) 1.357

- (U) 1,357
- PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link (FDL) terminals
- -- (U) Write and administer contracts for E-3, E-8, F-15, RIVET JOINT, COBRA BALL, ABCCC, MAOC, and MCE platforms.
- -- (U) Command and Control (C2) Terminal Acquisition Support.
- --- Determine terminal technical and configuration requirements.
 - Establish delivery schedule; establish maintenance plans. Establish maintenance training schedules.

Project P771

Page 1 of 14 Pages

Exhibit R-2 (PE 0604754F)

	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a	вирсет Астіvity 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	PROJECT Distribution P771
- (U) 3,278	 INTEGRATION: Efforts associated with integration of terminals into the various platforms. (U) Ongoing integration support to AWACS, RIVET JOINT, ABCCC, MAOC, MCE, JSTARS, and F-22. (U) Technical Improvements: Technical Improvements: Assist in processing P3I efforts. (U) Field Support for F-15 Operations. Provide two Shelterized JTIDS Systems (SJSs) to Nellis AFB. Support flight training, exercises, and scenario development/demonstrations. Support Data Link Utility Evaluation through OSP and follow-on activities. Support F-15 Electronic Combat Identification (CID) Development Test and Engineering (DT&E) (U) Provide technical assistance to Boost Phase Intercept Programs. High Gear Program: Testing sensor tracking of theater missile. Airborne Interceptor: Establish procedures for intercepting theater missile. (U) Begin Integration studies for Link 16: RADC, F-16, B-1, B-2 and B-52 	**Particle Support to AWACS, RIVET JOINT, ABCCC, MAOC, MCE, JSTARS, and F-22. ** **echnical Improvements:** Technical support to AF Platforms to integrate Pre-Planned Product Improvements (P3I). ** Assist in processing P3I efforts. ** Assist in processing P3I efforts. ** Provide two Shelterized JTIDS Systems (SJSs) to Nellis AFB. ** Provide two Shelterized JTIDS Systems (SJSs) to Nellis AFB. ** Support flight training, exercises, and scenario development/demonstrations. ** Support Bat Link Utility Evaluation through OSP and follow-on activities. ** Support F-15 Electronic Combat Identification (CID) Development Test and Engineering (DT&E) and follow-on activities. ** Support F-15 Electronic Combat Identification (CID) Development Test and Engineering (DT&E) and follow-on activities. ** High Gear Program: Testing sensor tracking of theater missile. ** High Gear Program: Establish procedures for intercepting theater missile. ** Airborne Interceptor: Establish procedures for intercepting theater missile. ** Airborne Integration studies for Link 16: RADC, F-16, B-1, B-2 and B-52	.22. &E) and follow-on activities.
- (U) 1,603	INTEROPERABILITY: Efforts associated with ensuring Link-16 operates effectively across a (U) AF platform interoperability. Support Multi-Service Interoperability Tests. Support All Service Combat Identification Evaluation Team (ASCIET) tests. Support to Engineering Interoperability Review Groups (IORGS US/UK bilateral). Support definition of Link-16 Network Structures. Air Force Network Design. Air Force Network Design for Integration Testing. Determine Network Design for Integration Testing. Provide Network Design Aid for Operations. Evaluate Navy Network Design Aid for ACC Users. Investigate internet-networking of JTIDS, and Transport Control Protocol Internet P	PERABILITY: Efforts associated with ensuring Link-16 operates effectively across all host platforms. Support Multi-Service Interoperability Tests. Support Multi-Service Combat Identification Evaluation Team (ASCIET) tests. Support definition of Link-16 Network Structures. Network Support Air Force Network Design. Provide Network Design Expertise. Provide Network Design for Integration Testing. Provide Network Design Aid for Operations. Evaluate Navy Network Design Aid for ACC Users. Evaluate Navy Network Design Aid for ACC Users. Investigate internet-networking of JTIDS and Transport Control Protocol Internet Protocol Networks.	rms.
Project P771	Раде	Page 2 of 14 Pages Exhi	Exhibit R-2 (PE 0604754F)
		9901	

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R	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997	v 1997
BUDGET ACTIVITY 5 - Engineering (BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	actical Information Distrib	PROJECT P771
- (U) 1,153	 SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. - (U) ISSA technical engineering software support at Warner Robins AFB. (U) Class 2/2H Technical Manual updates. (U) Class 2 Log support (PRE-OP). (U) Maintain and upgrade the SJSs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System 	AINMENT: Efforts associated with ensuring fielded terminals are supported. (U) ISSA technical engineering software support at Warner Robins AFB. (U) Class 2/2H Technical Manual updates. (U) Class 2 Log support (PRE-OP). (U) Maintain and upgrade the SISs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware.	
- (U) 1,686 - (U) 9,077	TEST: Efforts associated with fielding terminals. (U) Support provided by the 46th Test Squadron. Software Support. Platform integration support. Product improvement and special projects support. Regression test and integration. Product improvement/Development support.	support.	
- (U) <u>FY1997</u> - (U) 100	PROGRAMS: Efforts associated with Acquisition and Integration of Class 2/ (U) Class 2/2H Terminals Write and administrate contracts for E-3, E-8, F-15, RIVET JOINT, c (U) Command and Control (C2) Terminal Acquisition Support Betermine Terminal Technical and Configuration Requirements Establish delivery schedule Coordinate Spare Requirements Establish Maintenance Plans Establish Maintenance Training Schedules.	AMS: Efforts associated with Acquisition and Integration of Class 2/2H and Fighter Data Link. Class 2/2H Terminals. Write and administrate contracts for E-3, E-8, F-15, RIVET JOINT, COBRA BALL, ABCCC, MAOC, and MCE platforms. Command and Control (C2) Terminal Acquisition Support. — Determine Terminal Technical and Configuration Requirements. — Establish delivery schedule. — Coordinate Spare Requirements. — Establish Maintenance Plans. — Establish Maintenance Training Schedules.	
Project P771	Page	Page 3 of 14 Pages Exhibit R-2 (PE 0604754F)	F)

RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fahriiary 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	Distribution P771
 (U) 24,443 INTECRATION: Continue efforts associated with integration of terminals into the various platforms. (U) Orgoing integration support to AWACS, RIVET JOINT, ABCCC, MAOC, MCE, JSTARS, e. (U) Technical Improvements. (U) Orgoing integration support to AF Platforms to integrate Pre-Planned Product Improvements (P31) and Folds Support for Pt-15 Operations. (U) Field Support for Ft-15 Operations. - Support flight training, exercises, and scenario development/demonstrations. - Support Data Link Utility Evaluation through Operational Special Project (OSP) and folik. - Support Ft-15 Electronic Combat Identification (CID) DT&E and Follow-on Activities. - High Gear Program: Testing sensor tracking of Theater Missile. - High Gear Program: Testing sensor tracking of Theater Missile. - Afriborn Interceptor: Establish procedures for intercepting Theater Missile. - (U) Purchase MIDS terminals for early integration, testing, and prototype activity. - (U) Condinue engineering studies for Link 16 into the Ft-16. - (U) Begin Link 16 engineering studies for platform development/upgrade on F-15. - (U) Droduct Link 16 engineering studies for platform development/upgrade or F-15. - (U) Investigate approaches to implementing a modern, COTS-based, open systems architecture pubetween Link 16 host system processors and Link 16 terminals through a generic interface prestudy and demonstration. 	TEGRATION: Continue efforts associated with integration of terminals into the various platforms. - (U) Degoing integration support to AWACS, RIVET JOINT, ABCCC, MAOC, MCE, JSTARS, and F-22. - (U) Technical Improvements: Technical support to AF Platforms to integrate Pre-Planned Product Improvements (P31). Assist in processing P31 efforts. (U) Field Support for F-15 Operations. Support flight training, exercises, and scenario development/demonstrations. Support flight salition flight procedures for intercepting Theater Missile. Airborne Intercepting sensor tracking of Theater Missile. Airborne Intercepting procedures for intercepting Theater Missile. (U) Purchase MIDS terminals for early integration, testing, and prototype activity. (U) Purchase MIDS terminals for early integration, testing, and prototype activity. (U) Begin Link 16 engineering studies for platform development/upgrade on F-15. (U) Continue engineering studies for platform development/upgrade on F-15. (U) Investigate approaches to implementing a modern, COTS-based, open systems architecture processor study and demonstration.	ctivities.
Project P771	Page 4 of 14 Pages	Exhibit R-2 (PE 0604754F)

R	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997	997
BUDGET ACTIVITY 5 - Engineering a		PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	РRОЈЕСТ Р771
- (0) 3,689	INTEROPERABILITY: Efforts associated with ensuring Link-16 operates effectively across a — (U) AF Platform Interoperability. — Support multi-service interoperability tests. — Support All Service Combat Identification Evaluation Team (ASCIET) tests. — Support All Service Combat Identification Evaluation Team (ASCIET) tests. — Support definition of Link-16 network structures to support Interoperability. — Develop Enhanced Position Location Radio System (EPLRS)/Link-16 gateway. — Air Force Network Design. — Provide network design expertise. — Determine network design for integration testing. — Provide network design for integration testing. — Provide network design aid for operations. — Evaluate Navy network design aid for ACC users. — Investigate internet-networking of JTIDS and transport control internet protocol ne	AF Platform Interoperability. Support multi-service interoperability tests. Support multi-service combat Identification Evaluation Team (ASCIET) tests. Support All Service Combat Identification Evaluation Team (ASCIET) tests. Support to Engineering Interoperability Review Groups (IORGS US/UK bilateral). Support definition of Link-16 network structures to support Interoperability. Develop Enhanced Position Location Radio System (EPLRS)/Link-16 gateway. Network Support. Develop Enhanced Position testing. Provide network design for integration testing. Provide network design for integration testing. Maintain AF network design aid for operations. Evaluate Navy network design aid for ACC users. Evaluate internet-networking of JTIDS and transport control internet protocol networks.	
- (U) 200	SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. (U) ISSA technical engineering software support at Warner Robins AFB. (U) Maintain and upgrade the SJSs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (AINMENT: Efforts associated with ensuring fielded terminals are supported. (U) ISSA technical engineering software support at Warner Robins AFB. (U) Maintain and upgrade the SJSs, Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware.	
(U) 889	TEST: Efforts associated with fielding terminals. - (U) Support provided by the 46th Test Squadron. Software support. Platform integration support. Product improvement and special projects support. Regression test and integration. Product improvement/development support.	support.	
- (U) 29,321	TOTAL		-
Project P771	Page	Page 5 of 14 Pages Exhibit R-2 (PE 0604754F)	
		1060	

	RDT&E BUDGET ITEM JUSTIFICAT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a	вирбет Астіvіту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	ion Distribution P771
- (U) <u>FY1998</u> - (U) 103	PROGRAMS: Efforts associated with acquisition and integrat (U) Class 2/2H Terminals Administer contracts for Air Force platforms.	PROGRAMS: Efforts associated with acquisition and integration of Link 16 terminals for Air Force platforms (U) Class 2/2H Terminals Administer contracts for Air Force platforms.	tforms.
- (U) 5,403	INTEGRATION: Efforts associated with integration of Link 16 terminals into Air Force platforms. - (U) On-going engineering integration support to F-15C, AWACS, RIVET JOINT, ABCCC, M. - (U) Engineering integration support. New platforms to include F-15E, F-16, F-22, B-1, B-2, B-52, A-10, F-117, and Joint St. Perform initial evaluation for new mission areas. Integration cost reduction initiatives for interface processor. (U) Technical Improvements: Technical support for integration of Class 2 terminal P3I efforts. Technical support and demos for Link 16 capacity enhancements. Technical support and demos for Link 16 capacity enhancements. Support special exercises and tests. (U) Provide technical assistance to Link 16 Demonstration programs to include Project Strike (strikes on time critical targets).	TTEGRATION: Efforts associated with integration of Link 16 terminals into Air Force platforms. - (U) On-going engineering integration support to F-15C, AWACS, RIVET JOINT, ABCCC, MAOC, MCE, and JSTARS. - (U) Engineering integration support. New platforms to include F-15E, F-16, F-22, B-1, B-2, B-52, A-10, F-117, and Joint Strike Fighter. Perform initial evaluation for new mission areas. Integration cost reduction initiatives for interface processor. (U) Technical support and demos for Link 16 capacity enhancements. Technical support and demos for Link 16 capacity enhancements. Technical support and demos for Link 16 Demonstration programs to include Project Strike (Link 16 delivery of information to support strikes on time critical largets).	Fighter.
Project P771		Page 6 of 14 Pages	Exhibit R-2 (PE 0604754F)
		1070	

	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering a		PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	iti
- (U) 1,845	INTEROPERABILITY: Efforts associated with ensur (U) End-to-End operator interoperability Support Multi-Service operational tests Support exercises to include Roving Sands	RABILITY: Efforts associated with ensuring Link-16 operates effectively across all host platforms. id-to-End operator interoperability. Support Multi-Service operational tests. Support exercises to include Roving Sands, All Service Combat Identification Evaluation Team (ASCIET), US/UK operations, and	platforms. Team (ASCIET), US/UK operations, and
	 USAF deployments. Provide engineering support to Interoperability Working Groups Support definition of interoperable Link-16 Network Structures. (U) Network Support. 	USAF deployments Provide engineering support to Interoperability Working Groups (IORGS, US/UK bilateral, MIDS) Support definition of interoperable Link-16 Network Structures. Network Support.	al, MIDS).
	 Support to Air Force Network Design Facility. Provide Network Design expertise and training. Provide Network Design guidelines. 	sility. nd training.	
	Provide Network Design for integration testing and Maintain AF Network Design Aid until replaced by Evaluate Navy Network Design Aid for ACC Users.	 Provide Network Design for integration testing and engineering community demonstrations. Maintain AF Network Design Aid until replaced by Joint Service Design Aid. Evaluate Navy Network Design Aid for ACC Users. 	trations.
	 Investigate internetworking of Link 16. Gateway to Transport Control Protocol Internet Protocol (TCP/IP) networks. Gateway to Intel Products (NTM platforms). 	col Internet Protocol (TCP/IP) networks. tforms).	
- (U 206	SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. (U) Technical engineering software support. (U) Maintain and upgrade the SJSs and Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware.	lded terminals are supported. Winnebagos. nnslator and Display System (MTDS) prototype	hardware.
- (U) 1,000	TEST: Efforts associated with fielding terminals. (U) Test Support. Software version release field test. Platform integration support. Product improvement and Special projects support. Regression test and integration.	s support.	
- (U) 8,557	TOTAL		
Project P771	Раде	Page 7 of 14 Pages	Exhibit R-2 (PE 0604754F)

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RD	RDT&E BUDGET ITEM JUSTIFICATI	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering al	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	PROJECT Distribution P771
- (U) <u>FY1999</u> - (U) 106	PROGRAMS: Efforts associated with acquisition and integrat (U) Class 2/2H Terminals Administer contracts for Air Force platforms.	 PROGRAMS: Efforts associated with acquisition and integration of Link 16 terminals for Air Force platforms. (U) Class 2/2H Terminals. Administer contracts for Air Force platforms. 	ms.
- (U) 5,568	INTECRATION: Efforts associated with integration of Link 16 terminals into Air Force platforms. - (U) Ongoing engineering integration support to F-15C, AWACS, RIVET JOINT, ABCCC, MA (U) Engineering integration support. Patforms to include F-15E, F-16, F-22, B-1, B-2, B-52, A-10, F-117, and Joint Strike F Perform initial evaluation for new mission areas. Integration cost reduction initiatives for interface processor. On going generic integration investigation. (U) Technical Improvements: Technical support for integration of Class 2 terminal P3I efforts. Technical support and demos for Link 16 capacity enhancements. (U) Field Support. Support special exercises and tests. (U) Provide technical assistance to Link 16 Demonstration programs to include Project Strike (strikes on time critical targets).	TEGRATION: Efforts associated with integration of Link 16 terminals into Air Force platforms. - (U) Ongoing engineering integration support to F-15C, AWACS, RIVET JOINT, ABCCC, MAOC, MCE, and JSTARS. - (U) Engineering integration support. - Platforms to include F-15E, F-16, F-22, B-1, B-2, A-10, F-117, and Joint Strike Fighter. - Perform initial evaluation for new mission areas. - Integration cost reduction initiatives for interface processor. - On going generic integration investigation. - (U) Technical Improvements: - Technical Improvements: - Technical Support for integration of Class 2 terminal P31 efforts. - Technical upport and demos for Link 16 capacity enhancements. - Technical support and demos for Link 16 Demonstration programs to include Project Strike (Link 16 delivery of information to support strikes on time critical targets).	CE, and JSTARS.
Project P771	P.	Page 8 of 14 Pages.	Exhibit R-2 (PE 0604754F)

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~	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 5 - Engineering	BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	rebruary 1997 PROJECT Distribution P771
- (U) 1,690	INTEROPERABILITY: Efforts associated with ensure (U) End-to-End operator interoperability. Support Multi-Service operational tests.	: Efforts associated with ensuring Link-16 operates effectively across all host platforms. perator interoperability. ulti-Service operational tests.	ns.
	Support ex Provide eng Support del twork Support to Support to Provice	bility Working Groups. 6 Network Structures. ility.	
	 Provide Network Design guidelines. Provide Network Design for integration testing and engineering community c Assist ACC in determining/developing requirements and verification testing f Evaluate Navy Nertwork design Aid for ACC Users. Investigate internetworking of Link 16. Gateway to Transport Control Protocol Internet Protocol (TCP/IP) networks. Gateway to Intel Products (NTM platforms). 	 Provide Network Design guidelines. Provide Network Design for integration testing and engineering community demonstrations. Assist ACC in determining/developing requirements and verification testing for Joint Service Design Aid. Evaluate Navy Nertwork design Aid for ACC Users. Investigate internetworking of Link 16. Gateway to Transport Control Protocol Internet Protocol (TCP/IP) networks. Gateway to Intel Products (NTM platforms). 	: Design Aid.
- (U) 212	SUSTAINMENT: Efforts associated with ensuring fielded terminals are supported. (U) Technical engineering software support. (U) Maintain and upgrade the SJSs and Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (AINMENT: Efforts associated with ensuring fielded terminals are supported. (U) Technical engineering software support. (U) Maintain and upgrade the SJSs and Link-16 Winnebagos. (U) Maintain and upgrade the MULTI-LINK Translator and Display System (MTDS) prototype hardware.	a i
- (U) 1,040	TEST: Efforts associated with fielding terminals. (U) Test Support. Software version release field test. Platform integration support. Product improvement and Special projects support. Regression test and integration.	support.	
- (U) 8,616	TOTAL		
Project P771	Page	Page 9 of 14 Pages Exhibit	Exhibit R-2 (PE 0604754F)

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RDT&E BUDGET ITEM	I JUST	IFICAT	ION SH	TEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhit) jt		DATE February 1997	v 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Deve	Development	 #	PE NUMBER 0604754 System	PE NUMBER AND TITLE 0604754F Joint System	πιε oint Tacti	cal Infor	mation D	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	PROJECT P771
(U) B. <u>Program Change Summary (\$ in Thousands)</u>									
		FY 1996		FY 1997	FY 1998	FY 1999	<u>66</u>	Total	
(U) Previous President's Budget (FY 1997) (U) Appropriated Value		10,146		11,075	9,449	9,525	25	TBD	
(U) Adjustments to Appropriated Value			5						
a. General Congressional Reduction b. Small Business Innovative Research		-598 -217		-786 -768					
C. Ominious and Other Above Intesnoid Reprogrammings		-204							
d. Below 1 Inteshold Reprogrammings e. Recissions		-50							
(U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/98 President's Budget		9.077		29.321	-892	-909	-909	TBD	
						î)	1	
 (U) Change Summary Explanation: Funding: FY 1997 change is Congressional plus-up to accelerate Link 16 across multiple platforms FY 1998/99 changes are due to FFRDC reduction, AQ cut, and Coral Convert Transfer. Schedule: None Technical: None 	onal plus-u to FFRDC	p to acceler reduction, 2	rate Link 16 AQ cut, and	ressional plus-up to accelerate Link 16 across multiple platforn due to FFRDC reduction, AQ cut, and Coral Convert Transfer.	iple platforn ert Transfer.	SI			
(U) C. Other Program Funding Summary (\$ in Thousands)	nds)								
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	To Complete	Total Cost	
(U) Other Proc AF, PE 27419F (ABCCC)	1,900	0	0	0	0	0	0	1.900	
(U) Other Proc AF, PE 27417F (AWACS)	9,400	24,000	4,000	3,200	0	0	0	40,600	
(U) Other Proc AF, PE 27412F (MCE) (U) Other Proc AF, PE 35154F (AIA)	0 7,800	0 3,400	22,100 4,800	15,000 4,800	00	00	00	37,100 20,800	
Tomaca and and									
- (U) <u>Kelated KD1&E</u> Project <i>P77</i> 1			Page 10 of 14 Pages	14 Pages			П Vhibit	Evhihit R-2 (DE 0604754E)	ű
110,000,171			1 age 10 of 1	+ 1 ages			ICKIIDI	N-2 (PE 0004/34	477
			1074						

RDT&E BUDGET ITE	EM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing Do	Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	tical Information D		РRОЈЕСТ Р771
 (U)- Program Element #64770F E-8 (Joint STARS) (U)- Program Element #27412F, E-3 (AWACS) (U)- Program Element #27412F Modular Control Equipment (MCE) (U)- Program Element #27419F Airborne Battlefield Command and Control Center (ABCCC) (U)- Program Element #35154F AIA. 	NRS)) rol Equipment (MCE) efield Command and Contro	ol Center (ABCCC)			
(U) D. <u>Schedule Profile</u>	FY 1996	FY 1997	FY 1998	FY 1999	4
(U) Acquisition Milestones - Milestone III FRP Class 2/2H - LRIP Decision Class 2M - Milestone III FRP 2M					
(U) T&E Milestones - F-15 OSP Complete - MCE IOT&E - JSTARS IOT&E - MS OT-III - RIVET JOINT IOT&E - IOT&E Class 2M	× × × ×	× ×			
(U) Contract Milestones - FRP Class 2/2H - LRIP Contract Award Class 2M - FRP Class 2M - FRP II - FRP III		XX XX	×	×	
Project P771	P _t	Page 11 of 14 Pages	Exhibi	Exhibit R-2 (PE 0604754F)	

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RD	RDT&E PROGRAM EL	SRAM EL	-EMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COST	3REAKD	OWN (R	-3)	DATE	February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manı		Development	<u> </u>	PE NUMBER 0604754 System	PE NUMBER AND TITLE 0604754F Joint System	Tactical I	nformatio	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	tion	PROJECT P771
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$	in Thousands)									
- A (1)				FY 1996		FY 1997	FY 1998	FY 1999	<u>8</u> 1		
(U) Frograms				1,357		100	103	1	106		
(U) Integration				3,278		24,443	5,403	5,568	28		
(U) Interoperability	Ą,			1,603)3	3,689	1,845	1,690	06		
(U) Sustainment				1,153	33	200	206	212	12		
(U) Test				1,686	95	688	1,000	1,040	01		
(U) Total				9,077		29,321	8,557	8,616	91		
NOTE 1: In FY 1995 Interoperability is included in the Integration line.	995 Interoperabili	ty is included	in the Integration	line.							
(U) B. Budget Acquisition History and Planning	quisition History	and Planning	Information (\$ in Thousands)	Thousands)							
Performing Organizations:	zations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations GEC-MARCONI FFP	ent Organizations FFP	DEC 85	80,727	80,727	60,170	374	0	C	c	Continue	TRD
LOCKHEED	FFP	JUN 93	3,373	3,373	4,661	0	0	0	0	0	4,661
GEC-MARCOINI	FFF	JUN 93	850	850	850	0	0	0	0	0	850
MCAIR	FFF	JUN 93	1,072	1,072	1,072	0 (0	0	0	0	1,072
Project P771	Crr	MAK 94	2,434	2,434	2,434	0	0	o i	0 !	0	2,434
				La	rage 12 of 14 rages	ages		Σ	Exhibit R-3 (PE 0604754F)	0604754F)	

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R	RDT&E PROGRAM EL	GRAM EL	-EMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COST	3REAKD	OWN (R	-3)	DATE		
BUDGET ACTIVITY 5 - Engineeri	BUDGET ACTIVITY 5 - Engineering and Manufacturing	ufacturing	Development	#	PE NUMBER 060475	PE NUMBER AND TITLE 0604754F Joint	Tactical II	DE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution	n Distribu	repruary 1997 PROJ ution P77	PROJECT
Contractor or	Contract				System						
Government	Method/Type	Award or	Performing	Project	Total						
Pertorming	or Funding	Obligation	Activity	Office	Prior to	Budget	Rudoet	Budget	Dudgest	Dudanti	
Activity	Vehicle	Date	EAC	EAC	FY 1996	FY 1996	FV 1997	FV 1009	Dudget EV 1000	Buaget to	Total
RADC	PO/616	Various	Varions	Varions	2.670	197	0	r 1 1996	F I 1999	Complete	Program
WR-ALC	PO/616	Various	Varions	Varions	2.509	457	750		0	0	2,867
NADEP	MIPR	Various	Varions	Varions	795	e c	4C7		~ •	0	3,220
ACSI	FFP	SEP 94	445	445	445	47	0	0	00	0	795
TRD	Competitive	Voiions		,						•	
AF Platforms	PO/616	Various	Various	Various			8,911				
Navy-MIDS	MIPR	Various	Various	Various			1,031				
F-15 SPO	PO/616	Various	Varions	Various			2,500				
ViaSat	FFP	Dec-96	300	300	c	002	3,200				
F-16 SPO	PO/616	Various	Various	Various		300	2 611				
B-52 SPO	PO/616	Various	Varions	Various	0	150	110,0				
B-1 SPO	PO/616	Various	Various	Various	0	150					
Support and Management Organizations	gement Organizati	ions									
ESC	Various	Various	26,600	26.600	17 509	1 705	2,040	7201	0	•	
CONTRACTOR	Various	Various	52,457	52,457	37,390	2,375	1,576	1,293	2,035 1,214	Continue	TBD
MITRE	FPLOE	Various	89,854	89,854	75,194	2,146	5,225	4,298	4,327	Continue	TBD
Test and Evaluation Organizations	1 Organizations										
MT HOME AFB	PO/616	Varions	Varions	Varions	416						,
EGLIN AFB	PO/616	Various	Varions	Varions	20	176	889	1,000	1.040	Continue	416 TRD
									:		
										•	
											·
Project P771				Dam	. 12 . 61 . 0	į		1			
				Luk	rage 13 of 14 rages	ges		Exh	Exhibit R-3 (PE 0604754F)	0604754F)	
					1077						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDO	WN (R-3)		DATE Fe	February 1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604754F Joint Tactical Information Distribution System	отпе Joint Ta	ctical Info	rmation D)istributi		РRОЈЕСТ Р771
Government Furnished Property: NOT APPLICABLE							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	75,606 130,093 466	2,075 6,226 776	19,582 8,850 889	0 7,557 1,000	0 7,576 1,040	Continue Continue Continue	TBD TBD TBD
Total Project	206,165	9,077	29,321	8,557	8,616	Continue	TBD
Project P771	Page 14 of 14 Pages			Exhibi	Exhibit R-3 (PE 0604754F))604754F)	
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PE NUMBER: 0604770F

PE TITLE: JSTARS

UNCLASSIFIED

RDT&E BUDGET IT	TITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION S	HEET (F	2-2 Exhi	bit)		DATE		
RIDGET ACTIVITY						,		re L	repruary 1997	72
ing and Manufacturi	ng Development	ent	N H H	PE NUMBER AND TITLE O604770F JSTARS	TITLE STARS				_ c	PROJECT 3551
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
3551 JSTARS	154,939	215,210*	0	0	0	0	0	0		TBD
	0	0	0	0	0	0	0	0	0	0
								1		•

(U) A. Mission Description and Budget Item Justification
NOTE: The FY96 and FY97 funds shown above are for PE 0604770F. For FY98 and subsequent years, the Joint STARS RDT&E funds were moved to PE 0207581F, Joint STARS, and are reported under that PE.

airborne platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary two developmental aircraft in support of combat operations during Desert Storm. In Dec 1995 two developmental aircraft (one E-8A and one E-8C) were deployed in This program is in Budget Activity 5 - Engineering and Manufacturing Development, Research Category 6.5. There is an Air Force and Army need to provide, from STARS will be capable of providing target information for pairing direct attack aircraft and standoff weapons against selected targets. The system will be capable of attack information in all light and near-all-weather conditions. The operational utility of the system was effectively demonstrated by the outstanding performance of support of Operation Joint Endeavor in Bosnia. At a Defense Acquisition Board (DAB) Milestone III Review on 17 Sep 96, Full Rate Production of 19 aircraft was and fixed wing aircraft, and rotating antennas. This information would enable operational and tactical commanders to make and execute battle decisions. To meet being cued by other reconnaissance, surveillance, and target acquisition systems; able to respond rapidly to worldwide contingencies; and provide surveillance and these needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint approved. In Nov 1996 two E-8Cs were again deployed in support of Operation Joint Endeavor. This time the first production aircraft and the test aircraft were deployed.

*FY97 funds include \$6.3M realigned to PE 1001018F, NATO Alliance Ground Surveillance Program. Congressional approval has been requested for \$21.6M reprogrammed from Appropriation 3010 aircraft procurement funds.

FY 1996 (\$ in Thousands):

- Continue E-8C follow-on development and testing program
 - Continue Support Systems and Self Defense Suite (SDS) 38,514
- Continue Multi-Stage Improvement Plan (MSIP) and Crew Trainers Development 22,798
- Complete Post Delivery Test Support (PDTS) contract and start E-8C Follow-on Test Support (FOTS) contract 32,645
 - 44,099
 - Continue GFE, program support, test, and other miscellaneous efforts Start Life Cycle Cost Reduction Initiatives 3,500
 - 54,939

Project 3551

Page 1 of 6 Pages

Exhibit R-2 (PE 0604770F)

RDT&E BUDGET ITEM JUS	TIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibi	t	DATE February 1997	7
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ant	PE NUMBER AND TITLE 0604770F JSTARS	JSTARS		PR 35	PRОЈЕСТ 3551
 (U) FY 1997 (\$\frac{\psi}{19}\$ in Thousands): (U) 13,908 Continue E-8C follow-on development and testing program (U) 37,516 Continue Support Systems and Crew Trainer Development (U) 53,070 Continue SDS, E-8C FOTS, and MSIP (U) 58,616 Continue GFE, NATO, program support, test, and other miscellaneous efforts (U) 52,100 Continue Life Cycle Cost Reduction Initiatives (U) 215,210 Total 	and testing prograiner Developm rat, test, and other itiatives	ram ient miscellaneous ef	forts			
(U) FY 1998 (\$ in Thousands): (Reported under PE 0207581F)	31F)					
(U) FY 1999 (\$ in Thousands): (Reported under PE 0207581F)	31F)					
(U) B. Program Change Summary (\$ in Thousands)					Ē	
(U) FY 1997 President's Budget (U) Appropriated Value (I) Adjustments to Appropriated Value	FY 1996 165,002 182,202	FY 1997 207,284 203,784	FY 1998	FY 1999	Cost TBD	
a. General Congressional Reductions b. Small Business Innovative Research	(5,566) (4,035)	(5,075) (5,099)				
c. Omnibus, Other Above Threshold Reprogramming d. Below Threshold Reprogramming e. Rescissions f. NATO Alliance Ground Surveillance (AGS) Prog.	(7,859) (1,193) (4,300) (4,310)					
(U) Adjustments to Budget Since FY 1997 PB(U) FY 1998 President's Budget(U) Change Summary Explanation	154,939	21,600 215,210			TBD	
Funding: The FY96 appropriation included a \$20M increase for communications, a \$12M reduction for tech order overrun, and a \$4.5M increase for NATO for a net increase of \$12.5M. Adjustments to the FY96 and FY97 funding are as stated above. The \$21.6M adjustment to FY97 reflects a planned reprogramming (DD-1415) from Joint STARS Procurement for implementation of the Joint STARS Life Cycle (Skantze) Cost Reduction effort.	ease for commun 97 funding are a n of the Joint ST.	1 a \$20M increase for communications, a \$12M reduction for tech order overrun FY96 and FY97 funding are as stated above. The \$21.6M adjustment to FY97 implementation of the Joint STARS Life Cycle (Skantze) Cost Reduction effort.	reduction for tec he \$21.6M adjus Skantze) Cost Ro	th order overrun, a timent to FY97 reladuction effort.	nd a \$4.5M increase for NAT(Tects a planned reprogrammin) for a g (DD-
Project 3551	Pag	Page 2 of 6 Pages		ú	Exhibit R-2 (PE 0604770F)	
		1080				

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICAT	ION SH	EET (R	-2 Exhib	E.		DATE Feb	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing De	Development	ıt	PE NUI 060	PE NUMBER AND TITLE 0604770F JSTARS	πιε STARS	 			g w	PROJECT 3551
Schedule: The FY98 President's Budget cont of two E-8Cs in FY98 and one in FY99.	contains funding for one E-8C in FY98 and two in FY99, a change from the March 96 report which showed procurement	for one E-8	C in FY98 a	nd two in F	Y99, a chang	ge from the l	March 96 re	port which sh	lowed procu	rement
Technical:										
(U) C. Other Program Funding Summary (\$ in T	n Thousands)								Ę	Total
(U) Aircraft Procurement (BP 10)	FY 1996 467,816	FY 1997 536,866	FY 1998 336,391	FY 1999 671,268	FY 2000 593,702	FY 2001 517,974	FY 2002 407,583	FY 2003 36,448	Compl	Cost 5,438,638
(U) Quantities (U) Modifications (BP 11) (U) Initial Spares (BP 16)	68,753	7 0	35,139	72,854 95,188	65,311	52,740	36,133	27,817	14,665	72,854 494,951
Note: Procurement began with 2 aircraft in FY93, 2 in FY94, and 2 in FY95. Total cost figures include procurement funds starting in FY92 NATO Alliance Ground Surveillance (AGS) funds are reported under PE A1001018F, NATO JSTARS.	3, 2 in FY94, S) funds are re	and 2 in FY sported und	95. Total coer PE A100	ost figures in 1018F, NAT	iclude procui	rement fund	s starting in	FY92.		
(U) D. Schedule Profile										
-	FY 1996 2 3	4	- [교	FY 1997 2 3	4	$\frac{\text{FY 1998}}{2}$	∞] ε 4	1 2	FY 1999 2 3	4
(U) MOT&E Start X			!	ı						
(U) First SDS Installation (Group A)	× ×									
(U) First Trng Squadron Ready for Trng	<	×								
(U) Required Assets Availability (RAA) (U) MOT&E Complete		×	×							
(U) Production Aircraft Deliveries	*X		×		×	×	×	×	×	
(U) Software Support Facility Delivery		××								
(U) Full Rate Production Contract Award		;		×						
(U) Organic Support Capability					××					
(U) Mature Reliability					<		×			,
(U) Follow-On OT&E Start* First Aircraft Delivery to ACC										×
Project 3551			Page 3 of 6 Pages	Pages			Exhibi	Exhibit R-2 (PE 0604770F)	304770F)	
			1001							

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RD	RDT&E PROGRAM EI	3RAM EL	EMENT/P	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	(F)	DATE	February 1997	790
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manı		Development	int	PE NUMBE 060477	PE NUMBER AND TITLE 0604770F JSTARS	RS				PROJECT 3551
NOTE: Joint STARS RDT&E funds for FY98 and out FY98 and later funds are reported under PE 0207581F.	ARS RDT&E fu	nds for FY98 d under PE 02	and out have been transferred from PE 0604770F to PE 0207581F. Funds reported are for PE 0604770F only. 207581F.	een transferre	d from PE 0	604770F to F	E 0207581F.	Funds repo	rted are for I	E 0604770F	only.
(U) A. Project Cost Breakdown (\$\sin Thousands)	ost Breakdown (\$ in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Product Development(U) Support and Management(U) Test and Evaluation(U) Total	lopment fanagement uation			76,124 35,080 43,735 154,939	, – ,	141,163 32,886 41,161 215,210	!		1		
(U) B. Budget Acquisition History and Plannin	quisition Histor	y and Plannin	ng Information (\$ in Thousands)	(\$ in Thousand	ds)						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations GMSD* C/FPI	ent Organizations C/FPI	s Sep 85	1,156,200	1,156,200	962,646						962.646
F19628-85-C-0053 GMSD E10628-00-C-0107	SS/CPIF	Nov 90	843,226	843,226	770,949	25,172	47,105				843,226
GMSD F19628-90-C-0197	SS/CPIF	Oct 93	25,662	25,662	25,662						25,662
Boeing NO001983C0176	SS/FP	Jan 83	95,617	95,617	95,617						95,617
GMSD F19628-93-C-0067	SS/CPIF	Oct 93	107,925	107,925	74,087	23,536	10,302				107,925
* Grumman Melbourne Systems Division	urne Systems Div	/ision									
Project 3551				Paș	Page 4 of 6 Pages	ses		Exh	Exhibit R-3 (PE 0604770F)	0604770F)	

RD	RDT&E PROGRAM E		EMENT/F	LEMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	JWN (R-	3	DATE Fe	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ig and Manu	ıfacturing	Developme	ent	PE NUMBER AND TITLE 0604770F JSTA	PE NUMBER AND TITLE O604770F JSTARS	SS.			E W	PROJECT 3551
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project	Total			,	,	,	
Performing Activity	or Funding	Obligation Date	Activity FAC	Office	Prior to FV 1996	Budget FV 1996	Budget FV 1997	Budget FV 1998	Budget FY 1999	Budget to	Total
SDS Studies		Various			4,026						4,026
MSIP Block I	Various	Various	6,559	6,559	905'9	53					6,559
Other Misc	Various	Various	11,884	11,884	1,123	161	10,600				11,884
Depl Mission Spt Cap (DMSC)	SS/CPIF	Mar 97	009	009		009					009
Flt Crew Sim Dual and Assoc.	SS/CPAF/FFP	May 94	19,833	19,833	8,423	5,895	5,515				19,833
Maint Trainers	Varions		33,723	33,723	16,996	16,725	2				33,723
MSIP BIk2 Upgr	TBD	TBD	39,819	39,819			39,819				39,819
Interop Certif Cap	SS/CPIF	Dec 96	24,757	24,757		3,578	21,179				24,757
NATO GMSD	SS/T&M	Feb 97	6,300	6,300			6,300				6,300
Support and Management Organizations	ement Organizat	tions									
MITRE F19628-85-C-0001		Ongoing			141,191	11,741	10,609				163,541
TEMS - Various INFOTEC	C/FP	Ongoing Apr 85			75,131 38,035	7,398	7,450				89,979 38,035
F19628-85-C-0022 Other Spt & Mgt					129,247	15,941	14,827				160,015
Test and Evaluation Organizations	Organizations										
Project 3551				Pa	Page 5 of 6 Pages	Si.		Exh	Exhibit R-3 (PE 0604770F)	0604770F)	
					1083						

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RD	RDT&E PROGRAM EL	3RAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	OWN (R-	3)	DATE		
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ig and Man	facturing	Developme	9nt	PE NUMBER AND TITLE 0604770F JSTA	AND TITLE	SS.		-	rebruary 1997	PROJECT
Contractor or	Contract									,	100
Government Performing Activity	Method/Type or Funding Vehicle	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
3246 Test Wing Eglin AFB Range Snt - PO	PO			<u> </u>	23,756	1,038	1,066	FY 1998	FY 1999	Complete	<u>Program</u> 26,040
Elect Technical Lab - RVAN	MIPR				10,404						10,404
PDTS F19628-94-C-0040	SS/FFP	Jun 94	66,448	66,448	51,973	14,475					66,448
E-8C FOTS GMSD	SS/FFP/CPFF	Aug 96	68,469	68,469	16,045	20,270	32,154				68,469
JTF Support Other Test Spt	Allotment	Ongoing			40,614 21,006	7,882 70	7,871 70				56,367
Product Development Property JTIDS MILSTRIP/GFE Various GMSD	ent Property Various		Ongoing Ongoing		17,976 5,456	388 16	291				18,655
Support and Management Property	ement Property										
Test and Evaluation Property	Property	,									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	velopment d Management valuation				1,989,467 383,604 163,798 2,536,869	76,124 35,080 43,735 154,939	141,163 32,886 41,161 215,210				2,206,754 451,570 248,694 2,907,018
Project 3551				Pa	Page 6 of 6 Pages	5		Exhi	Exhibit R-3 (PE 0604770F)	0604770F)	

PE NUMBER: 0604779F

UNCLASSIFIED

PE TITLE: Joint Interoperability Tactical Command/Control

RDT&E BUDGET IT	EM JUS	STIFICA	TION SI	HEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe	February 1997	760
BUDGET ACTIVITY 5 - Engineering and Manufacturing C	Development	nent	PE N	PE NUMBER AND TITLE 0604779F Joint Int Command/Control	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	roperabil	ity Tactic			РRОЈЕСТ 2189
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2189 JINTACCS	5,771	5,606	5,929	5,940	6,089	6,159	6,262	6,400	6,400 Continuing	TBD
Quantity of RDT&E Articles	0	O	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

including Technical Interface Concepts and Technical Interface Design Plans. Close liaison across each of the Service JINTACCS programs precludes duplication of efforts. This program is in budget activity 5 - Engineering and Manufacturing Development, because it is designed to improve the interoperability of Tactical Command and Control in this program. The JINTACCS program, formerly Ground and Amphibious Military Operation (GAMO), is directed by JCS Memorandum 205-72, dated 1 April 1971, as modified by a Secretary of Defense memorandum, "Reorganization of the DoD Program to Achieve Interoperability of Tactical C2 Systems for GAMO," dated 2 Aug 1977. Elements of the Tactical Air Control System, E-3 Airborne Warning and Control System (AWACS) and Joint Tactical Information Distribution System (JTIDS) participate Intelligence (C31) Systems," November 12, 1992, and DoD Instruction 4630.8, "Procedures for Compatibility, Interoperability, and Integration of C31 Systems," November standards efforts under one program element. This project supports the efforts to ensure C3 systems' interoperability among all the CINCs, DoD agencies, and the services. 18, 1992. The JINTACCS program entails the compatibility and interoperability of C3 systems including tactical intelligence for joint or combined operations through the Engineering Organization (JIEO) which acts as the Executive Agent. Service and agency activities are governed by Joint Chiefs of Staff (JCS) approved documentation (TADILs), and other combat data link standards. This includes the coordination of all combat data link and MTF testing certification and configuration management of (C2) Systems used in support of joint operations. JINTACCS supports Air Force participation with the Army, Navy and Marines, and the Joint Interoperability and development and management of a joint architecture, requirements process, interface definitions, message text formats (MTFs), Tactical Digital Information Links The program complies with requirements of DoD Directive 4630.5, "Compatibility, Interoperability, and Integration of Command, Control, Communications, and Development/certification testing is a pre-production requirement in accordance with DoDD 4630.5 and DoDI 4630.8.

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>		
	5	

- Began Combat Air Forces (CAF) testing of Modular Control Element (MCE) Pre-Planned Product Improvements (P3I). Began CAF testing of Intelligence Advanced Development System (IADS),
 - Began acquisition of JSTARS test equipment.
 - Began integration of JSTARS Operations Facility (OPFAC) into test facility. 200 3
- Began development/evaluation of follow-on United States Message Text Format (USMTF) replacement. 9
 - Began development of interactive USMTF tool. 500 500 164 200 200
- Continued exercise participation for expanded USMTF processing Proof-of-Concept.
- Continued Theater Battle Management (TBM) C4I architecture development/data model development.
- Continued technology exchange/integration with Joint Staff Global Command and Control System (GCCS) project. 9999

Page I of 7 Pages

Project 2189

Exhibit R-2 (PE 0604779F)

<u></u>	RDT&E BUDGET ITEM JUSTIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997	1997
BUDGET ACTIVITY 5 - Engineering	вирсет Астіviту 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	PROJЕСТ 2189
- (U) \$ 100 - (U) \$ 200		Continued CAF preliminary testing of TADIL-J in Airborne Battletield Command and Control Center (ABCCC) and E-3. Continued review of impact of emerging DoD data element standardization on ISMTF standard	
- (U) \$ 234 - (II) \$ 100		in object-oriented prototype development.	
• • •	Continued development	yeniancements. system.	
A 69	Continued modification Continued development	of message standards supporting Theater Missile Defense (TMD). of Digital Message Transfer Device (DMTD) and Variable Message Format (VMF) standards	
- (U) \$ 300 - (U) \$ 500	Continued development	Continued development of TADIL-J capability.	
69 6		or stroot now on a confin acting and alcinecture.	
e ee		to fielded systems. acilities.	
177,8 (U) -	1 Total		
(U) FY 1997			
(n) -	Testing		
\$	Direct Technical support		
59 G			
(1) \$ (1) = 100 =	-	-	
9 69	o begun development of follow-on automated test tools. Continue CAF and Joint certification testing of ABCCC.	ols.	
\$	Continue CAF and Joint		
6	Continue CAF and Joint	testing of ROCC/AWACS Digital Information Link (RADIL).	
- (U) \$ 300 - (U) \$ 225	U Complete acquisition of JSTARS test equipment. Complete integration of JSTARS OPFAC into test facility	facility	
_	Message Text Formats		
69 (int (contractor support).	
69 6		nagement.	
- (U) \$ 647 - (II) \$ 60			
9	TADILS Management) rielaed systems.	
⇔		port).	
- (U) \$ 554			
Project 2189		Page 2 of 7 Pages Exhibit R-2 (PE 0604779F)	

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Ĕ	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
	Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical	rtical 2189
		Command/Control	
C(U) \$ 370 T	TADIL configuration management (contractor support). Continue development of TADIL documentation on CD-ROM.	-ROM.	
\$ 100	Continue modification of message standards supporting TMD	TMD.	
\$ 200	Continue development of DMTD, VMF, and TADIL J capability	capability.	
- (U) \$ 100 C - (U) \$ 200 Si	Continue network design and aids development for J11D3 network design facility an Start hardware/software integration for F-15E, F-16 Block 50/52, and ROCC/SOCC.	gn and aids development for J LIDS network design facility and architecture. e integration for F-15E, F-16 Block 50/52, and ROCC/SOCC.	
\$ 5,606	Total		
(U) FY 1998			
L (5) -	Testing		
09	Direct technical support (contractor support).		
\$ 135	Continue CAF testing of JSTARS.		
135	Continue annual CAF and Joint certification testing requirements for IADS.	uirements for IADS.	
60	Continue development of automated test tools.	of automated test tools. Find Joint certification testing requirements for F-3 Block 30/35 (TADIL A B D	
99	Continuing annual CAF and Joint certification testing re	F and Joint certification testing requirements for IADS (TADIL A, B).	
09 \$	Continuing annual CAF and Joint certification testing requirements for B-3 Block 20/25 (TADIL A, B).	equirements for E-3 Block 20/25 (TADIL A, B).	
09	Continuing annual CAF and Joint certification testing re	F and Joint certification testing requirements for MCE (TADIL A, B).	
\$ 135	Begin annual CAF and Joint certification testing requirements for MCE P31 TADIL J/Link 16.	sments for MCE P31 TADIL J/Link 16.	
8 .	Continuing annual CAF and Joint certification testing requirements for RADIL.	equirements for RADIL.	
135	Begin CAF and Joint certification testing for Senior Troupe (TADIL A, B)	oupe(IADILA, B).	
\$ 135	Begin CAF and Joint certification testing for CTAPS/TBMCS.	BMCS.	
09	Begin CAF and Joint certification testing for ABCCC (TADIL J)	radil j).	
\$ 135	Begin CAF and Joint certification testing for Battleffeld Situation Display (BSD) (TADIL A, B, J).	Situation Display (BSD) (TADIL A, B, J).	
100	Existing automated test tool upgrades (JTD, SMARTS).		
6	Message Text Formats		
M 728 \$ (0) -	Message 1 ext Standards configuration management (contractor support)	nntactor support). pent (contractor connect)	
117	INATIO Message 1ext Statituatus Comingutation management (Cominacio) supporty. Enfine information exchange development efforts	icii (comacioi support).	
9	Direct technical support (contractor support).		
09 \$	Continue expansion of MTF certification testing to fielded systems.	led systems.	
T (U) -	TADILs Management		
Project 2189	Рад	Page 3 of 7 Pages	Exhibit R-2 (PE 0604779F)

RDT&E BUDGET ITEM JUSTIFICAT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	PROJECT
 (U) \$ 992 TADIL configuration management (contractor support). (U) \$ 554 Link 16 migration support (contractor support). (U) \$ 275 TADIL configuration management (contractor support). (U) \$ 94 Continue modification of message standards supporting TMD. (U) \$ 94 Continue development of DMTD and VMF standards. (U) \$ 100 Continue network design and aids development for JTIDS network design facility and architecture. (U) \$ 120 Hardware/software integration technical support (contractor support). (U) \$ 150 Continue hardware/software integration for F-15E, F-16 Block 50/52, ROCC/SOCC. (U) \$ 50 Start hardware/software integration for F-16 Block 40/42. (U) \$ 5,929 Total 	oort). tring TMD. ds. TTIDS network design facility and architecture. ontractor support). F-16 Block 50/52, ROCC/SOCC. 1 CD ROM.	
(U) <u>FY 1999</u> - (U) \$ 1,608 Testing - (U) \$ 1,728 Message Text Formats - (U) \$ 2,604 TADILs Management (U) \$ 5,940 Total		
Project 2189	Page 4 of 7 Pages Exhi	Exhibit R-2 (PE 0604779F)

RDT&E BUDGET I	TIFICATIO	N SHEET	TEM JUSTIFICATION SHEET (R-2 Exhibit)	it)	DATE Febru	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NUMBER AND TITLE 0604779F Joint In Command/Control	ID TITLE Joint Intero /Control	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control]	PROJECT 2189
(U) B. Program Change Summary (\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	Total	
(U) Appropriated Value	6,356 6,356	5,976 5,976	6,174	6,226	Cost	
(U) Adjustments to Appropriated Value a. General Congressional Reduction b. Small Business Innovative Research c. Omnibus and other Above Threshold	-268 -134 -130	-223				
Keprogrammings d. Below Threshold Reprogrammings e. Recissions (U) Adjustments to Budget Years Since FV97 PB (U) Current Budget Submit/98 President's Budget	-53 5,771	5,606	-245 5,929	-286 5,940	ТВД	
(U) Change Summary Explanation: Funding: FY 1998 and 99 reductions due to FFRDC cut. Schedule: None. Technical: None. (U) C. Other Program Funding Summary (\$ in Thousands) NOT APPLICABLE	ut. NOT APPLICA	BLE				
Project 2189	Pag	Page 5 of 7 Pages		W 	Exhibit R-2 (PE 0604779F)	4779F)

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RDT&E BUDGET ITEM JUSTIFICA	VIION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	TE Fahrusay 1007	1907
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development		PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	ility Tactical	rebruary	2189 2189
<u>v 1996</u>			FY 1998	FY 1999	
(U) <u>CERTIFICATION TESTING</u> - MCE P ³ I	-	4	3 4	1 2 3	4
CAF X Joint - IADS	×				
CAF X Joint A STARS	×				
CAF Joint		*			
- E-3 AWACS CAF Joint			×	×	
(U) <u>OPFAC INSTALL/INTEGRATION</u> - ABCCC					
Complete - MCE P ³ I					
Complete X - F-1SE					
Begin Complete - ISTARS		×		×	
Begin X Complete		X			
Project 2189	Page 6	Page 6 of 7 Pages	Exhibit R-2	Exhibit R-2 (PE 0604779F)	
	Ĭ	1090			

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BREAK	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604779F Joint Interoperability Tactical Command/Control	LE nt Interoperak ntrol	oility Tactical	
(U) A. Project Cost Breakdown (\$ in Thousands)				
FY 1996	996 FY 1997	FY 1998	FY 1999	
(U) Testing (U) Message Text Formats 2, (U) TADILs Management 1, (U) Total	1,525 1,320 2,480 1,816 1,766 2,470 5,771 5,606	1,550 1,876 2,503 5,929	1,608 1,728 2,604 5,940	
Above categories have been changed beginning in FY97 to more accurately reflect program content.	flect program content.			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	(spue			
NOT APPLICABLE				
Project 2189	Page 7 of 7 Pages		Exhibit R	Exhibit R-3 (PE 0604779F)

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PE NUMBER: 0604851F

UNCLASSIFIED

PE TITLE: ICBM EMD

RDT&E BUDGET IT	EM JUS	TIFICA	TION SE	HEET (R	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE		19
BUDGET ACTIVITY			100					Ē	repruary 1997	397
ing and Manufacturi	ng Development	ent	090 090	0604851F ICBM	OGO4851F ICBM EMD	_				
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	179,685	202,153	137,944	066'98	30,371	0	0	0	0	1,201,365
133B Rapid Execution and Combat Targeting (REACT)	5,006	0	0	0	0	0	0	0	0	293,980
3085 Guidance Replacement Program (GRP)	112,607	115,961	66,943	20,993	0	0	0	0	0	547.731
4210 Propulsion Replacement Program (PRP)	62,072	83,434	71,001	65,997	30,371	0	0	0	0	356.896
13C4 Strategic C4 Program	0	2,758	0	0	0	0	0	0	0	2.758
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

- will modernize the command, control, communications, and computer systems associated with assured force execution/termination of the ICBM forces. These efforts correct age-related degradations and maintain existing weapon system reliability. The Strategic C4 (Command, Control, Communications, and Computers) Program Replacement Program (GRP) will replace failing guidance system electronics. The Propulsion Replacement Program (PRP) will remanufacture solid fuel stages to (U) ICBM modernization efforts will extend the operational life of the Minuteman ICBM weapon system. The Rapid Execution and Combat Targeting (REACT) Program replaced unsupportable Minuteman launch control center equipment with a modern command, control, and communications system. The Guidance were defined and validated in DoD's Nuclear Posture Review.
- (U) This program is in Budget Activity 5 Engineering and Manufacturing Development, Research Category 6.4, because the projects are for service use and program control is exercised at the project level.

(U) Acquisition Strategy:

- (U) REACT. This program covers the production and installation of the REACT Class V modification. The contractual vehicle, a fixed-price incentive (firm target)/award fee (FPIF/AF), was issued as a sole source acquisition. Deployment was completed in FY96.
- (U) Guidance Replacement Program. An EMD contract was awarded to develop, test, and replace selected guidance electronics and software. A cost plus-award-fee (CPAF) contract was issued following full and open competition.

Page 1 of 21 Pages

Exhibit R-2 (PE 0604851F)

RDT&E BUDGET ITEM JUST	LIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	ı.	DATE
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ınt	PE NUMBER AND TITLE 0604851F ICBN	PE NUMBER AND TITLE 0604851F ICBM EMD		rebruary 1997
(U) Propulsion Replacement Program. Planned acquisition will consist of all hardware and software modifications; integration and flight test support; delivery of remanufactured Stage 1, 2, and 3 motors; nuclear certification analysis tasks; and independent software certification. All contractual actions are sole source negotiated procurements using cost plus-award-fee (CPAF) contracts.	will consist of al n analysis tasks;	II hardware and s	oftware modifice t software certifi	tions; integratic	n and flight test support; delivery of actual actions are sole source negotiated
(U) Strategic C4. The program will initially focus on the modification and integration of existing Miniature Receive Terminals (MMRT) into Modified Miniature Receive Terminals (MMRT) for use in ICBM launch control centers (LCC). The type of engineering and manufacturing development (EMD) contract, and the production contract are TBD. An acquisition strategy similar to that used for the E-4B/E-6B MEECN-sponsored MMRT program is anticipated.	odification and in centers (LCC).	ntegration of exi The type of engi the E-4B/E-6B	sting Miniature R neering and man MEECN-sponsor	eceive Termina ufacturing deve ed MMRT prog	ls (MRT) into Modified Miniature oppnent (EMD) contract, and the ram is anticipated.
(U) B. Program Change Summary (S in Thousands)				,	
	FY 1996	FY 1997	FY 1998	FY 1999	Total
(U) Previous President's Budget (U) Appropriated Value (II) Adjustments to A proprieted Value	180,911 192,719	198,595 212,295	120,510	67,916	C <u>ost</u> 1,158,124
a. Cong Reductions b. SBIR	-3,773 -5,210	-4,675 -5,467			
 Commons of Outer Above Inteshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PR 	-4,051		7.00	7 6 6	
(U) Current Budget Submit/President's Budget	179,685	202,153	17,434	19,0/4 86,990	1,193,615
(U) Change Summary Explanation: See individual projects.					
(U) C. Other Program Funding Summary (\$ in Thousands):					
Related RDT&E: None.					
(U) D. Schedule Profile: See individual programs.					
	Page	Page 2 of 21 Pages		_	Evhihit B.2 (DE OROABK1E)
		1094			

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	2-2 Exhi	bit)		DATE FA	Fobriga, 4007	67
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Developm	ent	PE N	PE NUMBER AND TITLE 0604851F ICBM EMD	TITLE CBM EMI				and and a	PROJECT
GOST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
133B Rapid Execution and Combat Targeting (REACT)	5,006	0	0	0	0	0	0	0	0	293,980

(U) A. Mission Description and Budget Item Justification

members responding to critical National Command Authority directives. The missile procedures trainer modification will reflect current operational configurations and memory capacity has reached its limits. The Rapid Execution and Combat Targeting (REACT) program was initiated in 1988 to address these concerns. The program communications requirements and changes in crew procedures have, over time, resulted in task saturation of the crew members. Air Force Material Command studies eliminates supportability difficulties of the current weapon system controller. REACT will be integrated into both currently deployed versions of the Minuteman LCC system modifications have been installed on a stand-alone basis without consideration for human engineering interfaces and space limitations of the LCC. Additional replacement. The program will modify LCCs and associated trainers. The new weapon system control element provides significantly increased system capacity and combines five related efforts to improve maintainability, supportability, reliability, responsiveness and operability of the weapon system: weapon system controller (AM & B weapon systems). The rapid message processing element and rapid retargeting will streamline current procedures and provide greater flexibility for crew (U) Minuteman launch control centers (LCCs) have been deployed since the early 1960's. Since the original deployment, numerous communications and weapon show that the weapon system control element is reaching the end of its useful life. Manufacturers no longer produce many of the replacement parts and computer hardware replacement, rapid message processing, rapid retargeting software, launch control center console integration, and missile procedures trainer computer ensure crew members receive maximum benefit from training time. This project sustains a fielded operational weapon system.

(U) FY 1996 (\$ in Thousands):

- FAD of B system, B system deployment, Last Asset Delivery (LAD). (U) \$3,084
 - (U) \$1,922 (U) \$5,006
- Total
- (U) FY 1997 (\$ in Thousands): Not applicable
- (U) FY 1998 (\$ in Thousands): Not applicable
- (U) FY 1999 (\$ in Thousands): Not applicable

Project 133B

Page 3 of 21 Pages

Exhibit R-2 (PE 0604851F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibi		DATE	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM	DE NUMBER AND TITLE 0604851F ICBM EMD		February 1997 PROJECT	5
(U) B. Program Change Summary (S in Thousands)					T
FY 1996	<u>6</u> FY 1997	FY 1998	FY 1999	Total	
(U) Appropriated Value (II) Adjustments to Appropriate A Value	8 2 0	0	0	<u>Cost</u> 292,962	
a. Cong Reductions b. SBIR	1				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Builder Verse Since EV 1007 DD	Š				
(U) Current Budget Submit/President's Budget 5,006	0 9	0	0	293,980	
(U) Change Summary Explanation:					
Funding: FY96 funding reflects adjustments for RDT&E actuals.					
Schedule: No change.					
Technical: No change.					
(U) C. Other Program Funding Summary (\$ in Thousands):					
Related RDT&E: None.					
(U) D. Schedule Profile					
(U) Last Asset Delivery (AM System) (U) First Asset Delivery (B System) (U) Last Asset Delivery (B System) * Complete X* X* X* X* X*	$\frac{\text{FY 1997}}{2}$	4	FY 1998 2 3	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	
Project 133B	Page 4 of 21 Pages		ш	Exhibit R-2 (PE 0604851F)	
	7001				7

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R	RDT&E PROC	PROGRAM EL	EMENT/PROJECT		COSTE	REAKD	COST BREAKDOWN (R-3)	3)	DATE Fe	February 1997	997
BUDGET ACTIVITY 5 - Engineeri	BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development	int	PE NUMBE 060485	DE NUMBER AND TITLE OGO 4851F ICBM EMD	EMD			. ·	РРОЈЕСТ 133В
(U) A. Project ((U) A. Project Cost Breakdown (\$ in Thousan	S in Thousand	(sp)								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) B Systems Test(U) Complete AM &(U) Other(U) Total	B Systems Test Complete AM & B Deployment Other Total	#		1,819 1,265 1,922 5,006	6 2 6	0	0	9	0		
(U) B. Budget A	(U) B. Budget Acquisition History and Planni	y and Plannin	g Information	ng Information (\$ in Thousands)	(Sp						
Performing Organizations:	anizations:										_
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Developn Loral	Product Development Organizations Loral FFP/CPAF	8 4 Apr 89	160,200	159,200	288,974	3,084	0	0	0	0	292,058
Support and Mana Other	Support and Management Organizations Other	tions		0	0	1,922	0	0	0	0	1,922
Test and Evaluation Organizations None	on Organizations										
Project 133B				Pa	Page 5 of 21 Pages	ıges		Exh	Exhibit R-3 (PE 0604851F)	0604851F)	
					1001						

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RDT&E PROGRAM EL	M ELEMENT/PROJECT	CT COST BREAKDOWN (R-3)	REAKDO	WN (R-		DATE F.	February 1997	260
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	uring Development	PE NUMBER AND TITLE 0604851F ICBM	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD				РВОЈЕСТ 133В
Government Furnished Property:								
Contract Method/Type Awar Item or Funding Oblig Description Vehicle Date	Award or Obligation Delivery <u>Date</u> <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
<u>Product Development Property</u> None								
Support and Management Property None								
Test and Evaluation Property None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		288,974	3,084					292,058
Total Project		288,974	5,006					293,980
Project 133B		Page 6 of 21 Pages	S		EX.	Exhibit R-3 (PF 0604851F)	0604851E)	

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RDT&E	BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	TION SI	HEET (R	₹-2 Exhi	bit)		DATE Fe	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development	ent	PE N	PE NUMBER AND TITLE 0604851F ICBM EMD	TITLE CBM EMI					PROJECT 3085
COST (\$ In Thousands)	'housands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3085 Guidance Replacement Program (GRP)	rogram (GRP)	112,607	115,961	66,943	20,993	0	0	0	0	0	547,731
(U) A. Mission Description and Budget Item Ju	and Budget Item Jus	ıstification									
(U) Ongoing Minuteman life extension efforts are required to extend the life of the Minuteman. The Joint Requirements Oversight Council validated the Mission Need Statement for a Future Guidance System for Intercontinental Ballistic Missiles (ICBM) on 5 November 1992. GRP replaces failing guidance system electronics, and preserves the option to configure the missiles with the Peacekeeper Mk 21 reentry vehicle and an advanced inertial measurement unit. The Engineering and Manufacturing Development (EMD) contract was awarded to Rockwell International in August 1993. GRP includes the EMD, production, and installation of replacement guidance components to extend the life of the operational Minuteman force. Funding reflected here is for EMD.	life extension efforts ure Guidance System to configure the missil tent (EMD) contract w	ts are required to extend the life of the Minuteman. The Joint Requirements Ovn for Intercontinental Ballistic Missiles (ICBM) on 5 November 1992. GRP repsiles with the Peacekeeper Mk 21 reentry vehicle and an advanced inertial measn twas awarded to Rockwell International in August 1993. GRP includes the EMI the life of the operational Minuteman force. Funding reflected here is for EMD.	to extend th inental Balli eacekeeper to Rockwell perational M	life of the stic Missiles Mk 21 reent Internations dinuteman f	Minuteman.s (ICBM) on try vehicle an al in August orce. Fundir	The Joint I S Novembe nd an advance 1993. GRP ng reflected	Requirement or 1992. GRI ced inertial n includes the here is for E	s Oversight (Preplaces faineasurement EMD, produced).	Council valiciling guidanc unit. The E uction, and in	dated the Mis ce system ele ingineering a nstallation of	sion ctronics,
(U) FY 1996 (\$ in Thousands):											
- (U) \$96,303 Hz - (U) \$2,492 NL	Hardware/software development. Nuclear safety cross check analysis and independent validation and varification	elopment.	nd independ	dent welideti	finess force no.						
\$248	ICBM codes development.	ent.	nodonii piir	delli valluat.	ion and venn	Icanon.					
\$7,207	Systems engineering and technical support. Labs and support agencies.	d technical sies.	upport.								
\$3,064 \$2,669	Testing and other engineering support. Other	eering suppo	Ŧ.								
	Total										
(U) FY 1997 (\$ in Thousands):	ands):										
- (U) \$90,335 Ha	Hardware/software development. Ninclear safety cross chock analysis and independent volldeith and society discontinuations.	slopment.	onenebui bu	lant volidati	: : :	.,					
\$1,400	ICBM codes development.	int.	mu muepem	Jein Valluati	on and veril	ication.					
	Systems engineering and technical support. Labs and support agencies.	d technical su	apport.								
\$6,282	Testing and other engineering support	sering suppor	ť								_
– (U) \$115,961 To	Total										
2000											
Project 3085				Page 7 of 21 Pages	I Pages			Exhibit	Exhibit R-2 (PE 0604851F)	304851F)	

RDT&E BUDGET ITEM JUS	TIFICATIO	FEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	Œ	DATE February 1997	
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	ent	PE NUMBER AND TITLE 0604851F ICBN	PE NUMBER AND TITLE 0604851F ICBM EMD		PROJEC 3085	PROJECT 3085
(U) FY 1998 (\$ in Thousands):				i		
 (U) \$34,308 Hardware/software development. (U) \$4,438 Nuclear safety cross check analysis and independent validation and verification. (U) \$572 ICBM codes development. (U) \$4,824 Systems engineering and technical support. (U) \$10,752 Labs and support agencies. (U) \$12,049 Testing and other engineering support. (U) \$66,943 Total 	and independent upport. irt.	validation and ve	rification.			
(U) FY 1999 (\$ in Thousands):						
 (U) \$11,016 Hardware/software development. (U) \$1,600 Nuclear safety cross check analysis and independent validation and verification. (U) \$1,993 Systems engineering and technical support. (U) \$2,981 Labs and support agencies. (U) \$3,403 Testing and other engineering support. (U) \$20,993 Total 	and independent upport. rt.	validation and ve	rification.			
(U) B. Program Change Summary (\$\sums\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	Total	
(U) Previous President's Budget (U) Appropriated Value (II) Adjustments to Appropriated Value	110,753 120,755	108,211 121,911	44,352	0	494,546	
a. Cong Reductions b. SBIR	-2,364 -5,210	-2,783				
	-2,428 1,854		22,591	20,993		· <u>-</u>
(U) Current Budget Submit/President's Budget	112,607	115,961	66,943	20,993	547,731	
Project 3085	Pag	Page 8 of 21 Pages			Exhibit R-2 (PE 0604851F)	
		1100				

RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM EMD	
(U) Change Summary Explanation: Funding: FY98 and FY99 funding replication for fact-of-life schedule and contract cost growth. Schedule: Completion of operational model development/testing delayed; some acquisition/program milestones slipped (see Schedule Profile, R.2 Para D below). Technical: No change. (U) C. Other Program Funding Summary (S in Thousands): Related RDT & Explose Related RDT & Explose 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 1 3 3 4 1 1	some acquisition/program milestones slipped (see Schedule F $\frac{FY \ 1997}{2}$ 4 1 $\frac{FY \ 1998}{2}$ 4 1 X X X X X	Profile, R-2 Para D below). EY 1999 2 3 4
Pag	Page 9 of 21 Pages Exhibit R-2	Exhibit R-2 (PE 0604851F)

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RD	RDT&E PROGRAM EL	3RAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	REAKD	OWN (R-	3)	DATE	February 1997	6
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manu	Ifacturing	Development	int.	PE NUMBE 060485	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD			ig c	PROJECT 3085
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown (S in Thousand	(S)								
_				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Hardware/Software De	Hardware/Software Development ICBM Codes Contract	ənt		96,303		90,335	34,508	11,016	90		
(U) Nuclear Safety Cross Check Analysis Contract	y Cross Check Ar	nalysis Contrac		2,492	0 C	4,805	4,438	1,600	, c -		
(U) SETA				7,267	· [-	6,745	4,624	1,993	4 <i>e</i>		
(U) Other Engined (U) Other (U) Total	Other Engineering Support & Testing Other Total	l esting		3,064 2,669 112,607		6,282 115,961	12,049 66,943	3,403	m m		
(U) B. Budget Acquisition History and Plannin Performing Organizations:	equisition Histor nizations:	y and Plannin	g Information	g Information (\$ in Thousands)	<u>(sp</u>						
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	ent Organizations										
Boeing-North American	CPAF	31 Aug 93		409,053	183,727	96,303	90,335	34,508	11,016	0	415,889
Codes Contract				4,919	2,699	248	1,400	572	0	0	4,919
Support and Management Organizations NSCCA/IV&V CPAF 31	gement Organizat CPAF	tions 31 Mar 94		19,761	6.130	2.492	4.805	4.438	1.600	0	19,465
SETA	CPAF	4 Jan 94		47,493	26,481	7,267	6,745	4,624	1,993	0	47,110
Other Engineering Support	:	31 Aug 93		42,089	6,402	5,476	10,783	13,003	6,339	00	42,003
Project 3085				Pag	Page 10 of 21 Pages	адея		Exh	Exhibit R-3 (PE 0604851F)	0604851F)	
					1102						

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RD	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	<u>@</u>	DATE	February 1997	67
BUDGET ACTIVITY 5 - Engineering and Manufacturing	ng and Manu		Development	ant	PE NUMBE 060485	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD		-		PROJECT 3085
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Test and Evaluation Organizations AGMC PO White Sands PO VAFB PO/MIPR Strategic Missile PO	n <u>Organizations</u> PO PO PO/MIPR PO			182 812 8,919 90	135 41 236 0	47 276 283 0	0 225 0 45	0 225 8,400 45	0 45 0	0000	182 812 8,919
Complex (SMIC) Maxwell Sandia NSA Physics Int Little Mountain	MIPR PO/MPIR MIPR MIPR PO			37 2,303 75 22 261	37 0 75 0	0 193 0 22 0	0 1,130 0 0 493	0 1,060 0 0	0000	00000	37 2,383 75 22 561
Government Furnished Property: Contract Method/Type or Funding Description	ished Property: Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property None	nt Property										
Support and Management Property None	ement Property										
Test and Evaluation Property None	Property										
Project 3085				Pag	Page 11 of 21 Pages	ses		Exhi	Exhibit R-3 (PE 0604851F)	0604851F)	

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JT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	EAKDO	WN (R-3		DATE F	February 1997	97
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM EMD	IND TITLE	MD			д С	РРОЈЕСТ 3085
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Total Prior to <u>FY 1996</u> 186,426 44,277	Budget FY 1996 96,551 15,235 821	Budget FY 1997 91,735 22,333 1,893	Budget FY 1998 35,080 22,065 9,798	Budget FY 1999 11,016 9,932 45	Budget to Complete	Total <u>Program</u> 420,808 113,842 13,081
Total Project	231,227	112,607	115,961	66,943	20,993		547,731
Project 3085	Page 12 of 21 Pages	Si		Exhi	Exhibit R-3 (PE 0604851F)	0604851F)	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE	Eahriian, 1997	207
BUDGET ACTIVITY 5 - Engineering and Manufacturing C	Development	ent	PE NI	PE NUMBER AND TITLE 0604851F ICBM EMD	ITLE SBM EMC			-	ol daily is	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
4210 Propulsion Replacement Program (PRP)	62,072	83,434	71,001	65,997	30,371	1	0	0	0	356,896

(U) A. Mission Description and Budget Item Justification

cause catastrophic motor failure and, in turn, mission failure. RDT&E efforts will identify replacement materials that are no longer available or which have become (U) The Propulsion Replacement Program will remanufacture solid fuel stages to correct age-related degradations, maintain existing weapon system reliability, and demonstrated in an appropriate time frame to ensure the Minuteman propulsion system continues to meet existing performance capabilities and remains viable and support Minuteman life extension. Any of the degradations (propellant cracking, case corrosion, liner deterioration, inhibitor deterioration, and liner debond) can environmentally unacceptable, reduce life cycle costs, and identify corrections to age-related degradations. This project incorporates only changes that can be supportable. The project entered Phase 2 (Engineering Manufacturing and Development) in FY94.

(U) FY 1996 (\$ in Thousands):

- Fabrication, tooling and waste disposal for change verification motors. (U) \$22,245
- Integration of program activities such as system engineering, program management, range support, AEDC testing, booster (U) \$21,784
 - disassembly/assembly, booster transportation.
- Component reuse and materials replacement studies, continued stage design and development to include refurbishment.
 - (U) \$17,821 (U) \$222
- Total (U) \$62,072

FY 1997 (\$ in Thousands): 9

- Continue component reuse and materials replacement studies, continue stage design and development to include refurbishment. (U) \$25,368 (U) \$25,055
- Integrate program activities such as system engineering, program management, range support, AEDC testing, booster disassembly/assembly, booster transportation.
 - Continue fabrication, tooling and waste disposal for change verification motors. (U) \$27,083
 - Begin software modification \$3,561 9
 - Begin ordnance development effort
 - (U) \$1,900 (U) \$467 (U) \$83,434
 - Total \$83,434

Project 4210

Page 13 of 21 Pages

RD1	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATIO	SHEET (R-2 Exhibi	t)	DATE February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	d Manufacturing Development		PE NUMBER AND TITLE 0604851F ICBN	PE NUMBER AND TITLE 0604851F ICBM EMD		PROJECT 4210
(U) FY 1998 (\$ in Thousands):	nousands):					
- (U) \$21,148 - (U) \$23,143	Continue component reuse and materials replacement studies, continue stage design and development to include refurbishment. Integrate program activities such as system engineering, program management, range support, AEDC testing, booster disassembly/assembly, hooster transportation	olacement str engineering,	ndies, continue s program manag	tage design and e	levelopment to i port, AEDC test	nclude refurbishment. ing, booster disassembly/assembly,
- (U) \$22,575 - (U) \$3,137 - (U) \$998 - (U) \$71,001	Continue fabrication. Continue fabrication, tooling and waste disposal for change verification motors. Continue software modification. Continue ordnance development effort Total	osal for cha	nge verification	motors.		
(U) FY 1999 (\$ in Thousands):	housands):					
- (U) \$19,657 - (U) \$21,509	Continue component reuse and materials replacement studies, continue stage design and development to include refurbishment. Integrate program activities such as system engineering, program management, range support, AEDC testing, booster disassembly,	olacement str engineering,	ıdies, continue s program manag	tage design and cement, range sup	levelopment to i port, AEDC test	nclude refurbishment. ing, booster disassembly/assembly,
- (U) \$20,983 - (U) \$2,919 - (U) \$929 - (U) \$65,997	coosset transportation. Continue fabrication, tooling and waste disposal for change verification motors. Continue software modification. Continue ordnance development effort Total	osal for cha	nge verification	motors.		
(U) B. Program Change	(U) B. <u>Program Change Summary (\$ in Thousands)</u>	FY 1996	FY 1997	FY 1998	FY 1999	Total
(U) Previous President's Budget (U) Appropriated Value	Budget	66,170 67.872	87,567	76,158	67,916	372,274
(U) Adjustments to Appropriated Value a. Cong Reductions	opriated Value	-1,328	-1,833			
b. SBIR	:	-374	-2,300			
c. Omnibus or Other Above Threshold Keprid. Below Threshold Reprogramming (1) Adjustments to Budget Years Since FY 1997	 c. Umnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming Adinstments to Budget Years Since FV 1997 PB 	-4,098		-5 157	-1919	
(U) Current Budget Submit/President's Budget	•	62,072	83,434	71,001	766,59	356,896
Project 4210		Page	Page 14 of 21 Pages			Exhibit R-2 (PE 0604851F)

RDT&E BUDGET ITEM JUSTIFICATI	TEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997	266
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM EMD	
 (U) Change Summary Explanation: Funding: FY98-02 funding totals reflect adjustments to fund other AF Schedule: No significant impact. Technical: No significant impact. 	unge Summary Explanation: Funding: FY98-02 funding totals reflect adjustments to fund other AF and DoD priorities. FY97 spend plan revised based on FY96 accomplishments. Schedule: No significant impact. Technical: No significant impact.	
(U) C. Other Program Funding Summary (\$ in Thousands):		
Related RDT&E: None.		
(U) D. Schedule Profile		
Complete FY 1996 1	FY 1997 2 3 4 1 2 3 4 1 2 3 X X X X X X X X X X X X X	4> 1000 4000
Pa	Page 15 of 21 Pages Exhibit R-2 (PE 0604851F)	

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RD.	RDT&E PROGRAM EL		EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COST	3REAKD	OWN (R.	3)	DATE	February 1997	67
BUDGET ACTIVITY 5 - Engineering and Manufacturing	g and Mant		Development	ınt	PE NUMB! 06048!	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD			4	РВОЈЕСТ 4210
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousand	<u>(3</u>								
				FY 1996		FY 1997	FY 1998	FY 1999	C.		
	sertion			54,209		63,078	48,869	46,538	~~		
(U) Software	2400					3,981	5,780	4,712	٠,		
	Costs			0 6.639	၁စ္သ	2,617 7.983	5,033	8,893			
				0	0	2,691	200	0			
(U) Risks				1,002	9,0	2,617	2,807	0			
(U) Total				62,072		40/ 83,434	71,001	0 799,59	-		
(U) B. Budget Acquisition History and Plannir	tuisition Histor	y and Plannin	g Information	ng Information (\$ in Thousands)	(Sp						
Performing Organizations:	izations:										
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total						
Performing Activity	or Funding Vehicle	Obligation <u>Date</u>	Activity EAC	Office EAC	Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	nt Organizations										
Thiokol	SS CPAF	Aug 94	91,739	91,739	9,820	15,250	25,110	16,849	17,332	4,941	89,302
CSD	SS CPAF	Jul 94 Inl 94	88,670 93.083	88,6/0	12,843	16,495	19,231	14,465	15,035	8,164	86,233
ance	CCPAF	2QFY97	TBD	6,419	0	404,77 0	1.953	2.800	14,171	67/5	90,649
Software	C CPAF	1QFY97	TBD	16,515	0	0	3,981	5,780	4,712	1,640	16,113
Support and Management Organizations	ment Organizat	ions									`
TRW	SS CPAF	Oct 94	n/a	36,343	5,214	6,639	7,983	8,312	5,854	592	34,594
rrogram integration Other			n/a	n/a	380	213 222	4,256 467	3,280	0	2,074	10,203
Project 4210				Pag	Page 16 of 21 Pages	ages		Ή. YX	Exhibit R-3 (PF 0604851E)	0604851E)	
										7 22. 222	

RDT&E PROGRAM EI	ROGRA		EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	797
BUDGET ACTIVITY 5 - Engineering and Manufacturing	Manufact		Development	ent	PE NUMBE 060485	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD			Solution P	PROJECT
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	<u>გ</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Test and Evaluation Organizations AEDC PO Range (VAFB) PO Phillips Lab PO		Periodic Nov 99	n/a n/a n/a	n/a n/a n/a	487 0 15	789 0 0	1,716 0 0	1,960	2,247 4,746 0	2,380 4,851 0	9,579 9,597 15
Government Furnished Property:	perty:										
Contract Method/Type Item or Funding Description Vehicle	Type	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property None	ম										
Support and Management Property None	perty										
Test and Evaluation Property None											
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ıt ment				34,656 5,594 502	54,209 7,074 789	69,012 12,706 1,716	57,449 11,592 1,960	53,150 5,854 6,993	20,474 2,666 7,231	288,950 45,486 19,191
Total Project					40,752	62,072	83,434	71,001	65,997	30,371	353,627
Project 4210				Pag	Page 17 of 21 Pages	ies		Exhi	Exhibit R-3 (PE 0604851F)	0604851F)	

RDT&E BUDGET IT		TIFICA	FION SI	HEET (F	EM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE	Eob.::0m; 4007	201
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	Jevelopm	ent	PE NI 060	PE NUMBER AND TITLE 0604851F ICBM	PE NUMBER AND TITLE 0604851F ICBM EMD				y and a	PROJECT 13C4
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
13C4 Strategic C4 Program	0	2,758	0	0	0	0	0	0	0	2,758
(U) A. Mission Description and Budget Item Justification	stification									
(U) The Strategic C4 Program will modernize the command, control, communications and computers (C4) systems associated with assured force execution and/or termination of the ICBM forces. The program will initially focus on modification and integration of existing government furnished Miniature Receive Terminals (MRT) for use in ICBM launch control centers (LCCs). The MRT is a VLF receiver that is already designed, developed, and installed in the B-1B and B-52 bombers. This program will use assets no longer required by the B-1B and B-52. Effective in FY98, all future MMRT development will be accomplished under PE 0303131F, Minimum Essential Emergency Communications Network (MEECN), BPAC 2832, VLF/LF System Improvements	the command will initially (LCCs). The by the B-1B ons Network (focus on mo MRT is a V and B-52.	ommunicatic diffication an /LF receiver Effective in PAC 2832.	ons and comind integration that is alrest FY98, all fu	puters (C4) s on of existing ady designed, ture MMRT	ystems assoc government , developed, developmen	ciated with a t furnished N and installe tt will be acc	issured force Ainiature Red in the B-1F	execution a ceive Termii 3 and B-52 b inder PE 030	nd/or nals oombers.
(U) FY 1996 (\$ in Thousands): Not Applicable	je.		`		L					
(U) FY 1997 (\$ in Thousands): - (U) \$2,758 MMRT modification and - (U) \$2,758 Total	integration into ICBM LCCs	ıto ICBM L	်							
(U) FY 1998 (\$ in Thousands): Future work to be performed under MEECN (PE 0303131F) (U) FY 1999 (\$ in Thousands): Future work to be performed under MEECN (PE 0303131F)	o be performe o be performe	ed under ME ed under ME	ECN (PE 0. ECN (PE 0.	303131F) 303131F)						
(U) B. Program Change Summary (\$ in Thousands)	(spu									
		FY 1996		FY 1997	FY 1998	FY 1999	<u>8</u> 1	Total		
(U) Appropriated Value		00		2,817 2,817	0		0	Cost 2,817		
a. Cong Reductions b. SBIR				-59						
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FV 1997 PR	ram B									·
(U) Current Budget Submit/President's Budget)	0		2,758	0		0	2,758		
Project 13C4			Page 18 of 21 Pages	21 Pages			Exhibit	Exhibit R-2 (PE 0604851F)	304851F)	

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604851F ICBM EMD	РRОЈЕСТ 13С4
(U) Change Summary Explanation: FY97 funding reflects congressionally mandated reductions.	ated reductions.	
(U) C. Other Program Funding Summary (\$ in Thousands):		
Related RDT&E: None.		
(U) D. Schedule Profile		
(U) MMRT development for ICBM LCCs $\frac{FY~1996}{2~3~4~1}$	FY 1997 FY 1998 FY 1999 2 3 4 1 2 3 4 (Future work to be performed under MEECN (PE 0303131F))	<u>FY 1999</u> 2 3 4 4EECN (PE 0303131F)
Project 13C4	Page 19 of 21 Pages Exhibit R-2 (PE 0604851F)	= 0604851F)

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RDT	&E PRO	SRAM EL	EMENT/	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST	3REAKD	OWN (R	(£.	DATE	February 1997	766
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	gand Man	ıfacturing	Developm	ent	PE NUMBI 06048	PE NUMBER AND TITLE 0604851F ICBM EMD	EMD			and and and and and and and and and and	PROJECT 13C4
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown (S in Thousand	<u>(s)</u>								
(U) Development of MMRTs for ICBM LCCs (U) Total	MMRTs for K	BM LCCs		FY 1996		FY 1997 2,758 2,758	FY 1998 0	FY 1999 0	Ø 00		
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	isition Histor	y and Plannin	<u>g Information</u>	ı (\$ in Thousar	(spi						
Performing Organizations:	ations:										
Contractor or Government Nerforming o	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations TBD TBD	t Organizations TBD	TBD		2,758	0	0	2,758	0	0	0	2,758
Support and Management Organizations None	nent Organizat	ions									
Test and Evaluation Organizations None	<u>rganizations</u>										
Project 13C4				Pag	Page 20 of 21 Pages	səği	:	Exhi	Exhibit R-3 (PE 0604851F)	0604851F)	

RDT&E PROGRAM EL		EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	≘	DATE F (February 1997	197
BUDGET ACTIVITY 5 - Engineering and Manufacturing		Development	PE NUMBER AND TITLE 0604851F ICBN	DE NUMBER AND TITLE 0604851F ICBM EMD	EMD.			T. 4-	PROJECT 13C4
Government Furnished Property:	y:						·		
Contract Method/Type Item or Funding Description Vehicle	pe Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property None									
Support and Management Property None	74								
Test and Evaluation Property None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	=				2,758				2,758
Total Project					2,758				2,758
Project 13C4		Pag	Page 21 of 21 Pages	sə		Exh	ibit R-3 (PE	Exhibit R-3 (PE 0604851F)	

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PE NUMBER: 0604853F

UNCLASSIFIED

PE TITLE: Evolved Exp Lannch Veh - FMD (Snace)

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	१-2 Exhi	bit)		DATE Fe l	February 1997	760
BUDGET ACTIVITY 5 - Engineering and Manufacturing D	Development	ient	PE NI 060	PE NUMBER AND TITLE 0604853F EVOIN	TITLE Volved E	PENUMBER AND TITLE 0604853F Evolved Exp Launch Veh - EMD (Space)	ch Veh -	EMD (Sp		РРОЈЕСТ 0004
COST (\$ in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
0004 EELV EMD	0	0	28,376	293,950	324,891	232,991	256,797	419,280		162,200 1,718,485
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification:

family of vehicles must be capable of meeting the Government's spacelift needs (DoD, intelligence, and other government missions) through at least 2020, as defined in The first operational capability for the Heavy-Lift Variant (HLV) is required by FY05 to provide for continued assured access to space following the Titan IV phaseout. The Evolved Expendable Launch Vehicle (EELV) program is a space launch system development program. The purpose of this program is to replace the current fleet the National Mission Model. The first operational launch for the Medium-Lift Variant (MLV) is required by FY02 to support satellite block changes and transitions. Program content includes the development of the system design, demonstrations of key technologies, modifications to industrial capability and launch facilities, and of medium to heavy-lift class expendable launch vehicles (Titan II, Delta II, Atlas II, and Titan IV) with a more affordable family of space launch vehicles. With a demonstration launches of both medium and heavy-lift EELV variants. In accordance with the approved EELV acquisition strategy, portions of the EMD contract nonrecurring development cost of \$2 billion, EELV is projected to save 25-50 percent over the current fleet of expendable launch vehicles during a 20 year period. The program is in Budget Activity 5, Engineering and Manufacturing Development, because it supports engineering and manufacturing development of the EELV funds will fund modification and construction of RDT&E launch facilities at both Cape Canaveral AS (CCAS) FL and Vandenberg AFB (VAFB) CA. The EELV concept leading to deployment of a lower cost expendable launch vehicle system.

(U) Acquisition Strategy:

facilities, workforce), and optimization of production and launch operations, processes, and rates. Development contracts will be competitively awarded. Downselect to and support efficiencies. Cost improvements will be achieved through commonality, consolidation, reduction of supporting infrastructure (launch pads, manufacturing The EELV concept of a family of launch vehicles emphasizes commonality of hardware and infrastructure and economies of scale to enhance production, operations, a single EELV contract/concept is planned at the EMD decision point (third quarter FY98). Production contracts will be sole source to the EELV EMD contractor.

- (U) \$0
- Not Applicable. EELV was funded in PE 0603853F in FY 1996 and FY1997.
- (U) \$0
- Not Applicable. EELV was funded in PE 0603853F in FY 1996 and FY 1997.

Project 0004

Page 1 of 5 Pages

Exhibit R-2 (PE 0604853F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (I	3-2 Exhibit	t)	DATE February 1997	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604853F Evolv	Evolved Exp	PENUMBER AND TITLE 0604853F Evolved Exp Launch Veh - EMD (Space)	EMD (Space)	РРОЈЕСТ 0004
 (U) \$9.900 Competitively award a single EMD contract in mid 1998. Contract will span through FY04. If EMD contractor does not complete the Tailored Critical Design Review (TCDR) in Pre-EMD, then TCDR will be completed under this contract. (U) \$15,000 Portion of EMD contract funds that will fund modification and construction of launch facilities at both Cape Canaveral AS (CCAS) FL and Vandenberg AFB (VAFB) CA. Actual modification costs are pending final downselect of EMD contractors. Includes Project Numbers XUMU983006 and DBEH983007. (U) \$3,476 Program management and other support costs. (U) \$22,376 Total 	Contract will span the will be completed ure and construction of are pending final dox	rough FY04. If inder this contract launch facilities waselect of EMD	EMD contractor does at both Cape Canave contractors. Include:	not complete the Tail aral AS (CCAS) FL an ; Project Numbers	lored Id
 (U) \$117,100 (U) \$117,100 (U) \$150,000 Portion of EMD contract. (U) \$150,000 Portion of EMD contract funds that will fund modification and construction of launch facilities at both CCAS FL and VAFB CA. Actual modification costs are pending final downselect of EMD contractors. (U) \$25,850 Program management and other support costs. (U) \$293,950 	and construction of EMD contractors.	' launch facilitie	s at both CCAS FL at	nd VAFB CA.	
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. Small Business Innovative Research	FY 1997	FY 1998 93,500	FY 1999 297,915		
c. Omnibus of other above uneshold reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget		-65,124 28,376	-3,965 293,950		
Project 0004	Page 2 of 5 Pages		Exhib	Exhibit R-2 (PE 0604853F)	í.

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFICA	TION SH	EET (R-	2 Exhit) E		DATE Fe	February 1997	260
BUDGET ACTIVITY 5 - Engineering and Manufacturing Do	Development	PE NUI	PE NUMBER AND TITLE 0604853F Evolv	TLE	kp Launc	th Veh -	DTITLE Evolved Exp Launch Veh - EMD (Space)		PROJECT 0004
 (U) Change Summary Explanation: Funding: FY98 funds were reduced by \$63.260 million and transferred to PE 0603853F (EELV Dem/Val program element) to reflect the approved schedule for the pre-EMD phase. The pre-EMD phase will run from December 1996 to May 1998. The change is required to implement the approved acquisition strategy as documented in the Single Acquisition Management Plan (SAMP). Schedule: Not Applicable. Technical: Not Applicable. 	.260 million and trans will run from Decembo agement Plan (SAMP)	sferred to PE 0 er 1996 to May).	603853F (EI y 1998. The	ELV Dem/V	al program equired to in	element) to	reflect the a e approved a	acquisition st	edule for rategy as
(U) C. Other Program Funding Summary (\$\mathbb{S}\$ in Thousands) \text{FY 1996} (U) National User (non-AF budget) 72,300	<u>FY 1996</u> FY 1997 72,300 18,600	FY 1998 7,100	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Comp	Total 98,000
(U) Missile Procurement, AF (PE 030593F) Related RDT&E: (U) EELV EMD (PE 0603853F). (U) EELV (Space) (PE 0305953F) (U) Medium Launch Vehicles (PE 0305119F). (U) Titan Space Launch Vehicles (PE 0305144F).	36,894 42,333	63,260	3,383	245,428 0 3,480	285,471 0 3,577	171,951 0 2,398	303,782 0 795	Cont. 0 Continue	Cont. 172,533 Continue
 (U) D. Schedule Profile EMD Module (U) Defense Acquisition Board (U) EMD contract award (U) Tailored Critical Design Review completed No Later Than date Dec 98 (U) Low Rate Initial Production start planned for 1st quarter FY00 (U) System Test Flight #1 (MLV) planned for FY01 (U) System Test Flight #2 (HLV) planned for FY03 	FY 1996 1 2 3	4	EY 1997 2 3	4		FY 1998 2 3 X X	4 ×	FY 1999 2 3	4
Project 0004		Page 3 of 5 Pages	Pages			Exhib	Exhibit R-2 (PE 0604853F))604853F)	

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RDT&E	RDT&E PROGRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	ECT C	OST BR	EAKDO	WN (R-	3)	DATE	February 1997	1997
BUDGET ACTIVITY 5 - Engineering and Manufacturing	Manufactu	ıring Deve	Development		PE NUMBER AND TITLE 0604853F Evolv	IND TITLE	D TITLE Evolved Exp Launch Veh - EMD (Space)	unch Ve	h - EMD	(Space)	РРОЈЕСТ 0004
(U) A. Project Cost Breakdown (S in Thousands)	kdown (S in Th	(Spusands)							!		
			•	FY 1996	FY 1997		FY 1998	FY 1999	66		
(U) EMD Contract (U) Mission Support (U) Total							24,900 3,476 28,376	267,100 26,850 293,950	.00 150 150		
(U) B. Budget Acquisition History and Planning	n History and	Planning Info	Information (\$ in Thousands)	housands)							
Performing Organizations:	:5										
Contractor or Co Government Me Performing Fur Activity Ve	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to <u>FY 1996</u>	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Prime Contract C/CP (EMD	rganizations C/CP (EMD)	. 86 unf			0	0	0	24,900	267,100	1,265,100	1,557,100
Support and Management Organizations SPO Mission Spt Various FFRDC CPAF Ranges Various Other Cntr Spt Various	nt Organizations Various CPAF Various Various	Various FY95 Various Various	N/A N/A N/A	N/A N/A N/A	0000	0000	0000	276 1,200 0 2,000	1,750 5,400 200 19,500	4,200 29,400 1,300 96,159	6,226 36,000 1,500 117,659
Test and Evaluation Organizations Not Applicable	zations				0	0	0	0	0	0	0
Project 0004				Page	Page 4 of 5 Pages			Ш	xhibit R-3 (Exhibit R-3 (PE 0604853F)	F)

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOWN	V (R-3)		DATE	February 1997	1997
вирбет аститу 5 - Engineering and Manufacturing Development	PE NUMBER AND TITLE 0604853F EVOIN	ртпс Evolved Exp Launch Veh - EMD (Space)	xp Laun	ch Veh	- EMD (Space)	РРОЈЕСТ 0004
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	n Thousands)						
Government Furnished Property: Not Applicable							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	000	000	000	24,900 3,476 0	267,100 26,850 0	1,265,100 131,059 0	1,557,100 161,385 0
Total Project	0	0	0	28,376	293,950	1,396,159	1,718,485
	Date & S. Dates			i i	Q C Q	Evelikii: D. 3 (DE DE048R2E)	
	25 201 21 485					2001	

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PE NUMBER: 0603402F

UNCLASSIFIED

PE TITLE: Space Test Program (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	R-2 Exhi	bit)		DATE		-
BUDGET ACTIVITY				•				lau	repruary 1997	36
6 - Management and Support			090	PE NUMBER AND TITLE 0603402F Space	TITLE pace Tes	PE NUMBER AND TITLE 0603402F Space Test Program (Space)	m (Spac	e)	4 2	РRОЈЕСТ 2617
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2617 Free Flyer Spacecraft Missions	44,731	43,439	42,241	56,157	51,748	53,536	55,360	57,444	57,444 Continuing Continuing	Continuina
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	, 0	2 0

(U) A. Mission Description and Budget Item Justification

- (U) Space Test Program (STP) is a Budget Activity 6 RDT&E Management Support program. It provides support to the DoD space research community by centrally financing the launch and initial operations costs for experiments with military relevance whose scope ranges from basic research to advanced development. STP missions are the most cost-effective way to flight test new space systems technologies, concepts and designs, providing an inexpensive way to:
 - Demonstrate the feasibility of new space systems and technologies,
- Improve operational design by characterizing the space environment and event or sensor physics proposed for an operational system or system upgrade,
 - Provide early operational capabilities to evaluate usefulness or quickly react to new developments,
 - Perform operational risk reduction through direct flight test of prototype components,
- Develop the knowledge base from which to plan new and improved operational systems and system upgrades, and
 - Exploit unanticipated discoveries and opportunities.

This DoD program provides the primary spaceflight capability to perform fly-before-buy, risk-reducing demonstrations of advanced technologies in operational space environments. The Secretary of Defense issued a policy statement in November 1995 reaffirming STP's role as the primary provider of spaceflight for the entire DoD space research community.

as well as Small Launch Vehicle class boosters (such as Pegasus, Taurus, and LMLV) themselves. Medium Launch Vehicle class boosters are provided as required by are procured within the constraints of available funding and according to experiment requirements. These include Small and Medium Launch Vehicle class satellites, improving DoD's current and future operational space systems' performance. Experiments are considered for spaceflight based on the priority that they are assigned common spaceflight opportunities include piggybacking on military or commercial satellites, both foreign and domestic, and the various payload modes of the Space Shuttle. For those experiments whose requirements cannot be satisfied with these "secondary" opportunities, dedicated STP spacecraft and launch vehicle hardware by a DoD Space Experiments Review Board, a group that is independent of the STP Program Office, and is comprised of Air Force, Army, Navy, BMDO and other representatives with expertise in DoD operational space requirements. The Board gives the prioritized list of experiments to STP, who then seeks out the most cost effective means of spaceflight so as to maximize the number of experiments flown within the constraints of priority, opportunity and available funding. The most (U) The space research experiments that STP supports are justified, developed and delivered by various Service laboratories and DoD agencies, with the goal of PE 35119F. If a particular manifested experiment fails to materialize or is deemed impractical to fly given current funding, or if the appropriate spaceflight opportunity becomes unavailable, STP shifts what resources remain to provide spaceflight support for the next highest priority experiments.

(U) The Air Force requires a stable funding level and the flexibility necessary to take advantage of whatever means of spaceflight is deemed to be most cost effective for a given experiment or complement of experiments. This flexibility is essential to take advantage of inexpensive "target of opportunity" space hardware, including

Project 2617

Page 1 of 6 Pages

Exhibit R-2 (PE 0603402F)

		RDT&E BUDGET ITEM JUSTIFICATI	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Managen	CTIVITY lageme	DGET ACTIVITY - Management and Support	PE NUMBER AND TITLE 0603402F Space Test Program (Space)	
oper resea laum also Such Spac	ational spa nrch is accc ch and test force each a redunda e Experim	operational spacecraft, where margin is usually firmly identified during the later stages of spacecraft development. This assures that the greatest amount of DoD space research is accomplished with the limited funds available. Without the requested funding, DoD would lose its most successful and most cost-effective capability to launch and test new technologies prior to their incorporation into our nation's very expensive and demanding operational space systems. Insufficient funding would also force each of the Services and DoD agencies to create individual launch capabilities in an attempt to duplicate STP's current low-cost, risk mitigating capability. Such a redundancy would result in the loss of the contractual economy of scale that a single space test organization provides, as well as the filtering function of the STP Space Experiment Review Board in assuring quality experiments and minimum duplication.	later stages of spacecraft development. This assures the uested funding, DoD would lose its most successful and n's very expensive and demanding operational space systh capabilities in an attempt to duplicate STP's current lescale that a single space test organization provides, as we mum duplication.	at the greatest amount of DoD space i most cost-effective capability to stems. Insufficient funding would ow-cost, risk mitigating capability.
9999	(U) <u>FY 1996</u> (U) \$ 9,622 (U) \$ 2,516 (U) \$32,148	Piggyback/secondary payload launch/mission studies, Aerospace support, mission support, Program Office support, and contract close-out costs. Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support. Development and construction of Space Test Experiments Platform Mission 4 (STEP-4), Advanced Rescarch & Global Observation Satellite (ARGOS), and Tri-Service Experiments Mission 5 (TSX-5) satellites; incremental funding of Pegasus XL boosters, and booster integration for	rospace support, mission support, Program Office support- t-launch processing, and launch support. s Platform Mission 4 (STEP-4), Advanced Research & C 5) satellites; incremental funding of Pegasus XL booster	rt, and contract close-out costs. Jobal Observation Satellite s, and booster integration for
(D) 	(U) \$ 445 (U) \$44,731	STEP-4 and the Fast On-Orbit Recording of Transient Events (FORTE) missions. Launch processing and initial operations support for Radiation Experiment II (RE Total	t Recording of Transient Events (FORTE) missions. operations support for Radiation Experiment II (REX II) mission.	
599999	(U) <u>FY 1997</u> (U) \$11,638 (U) \$13,539 (U) \$ 2,815 (U) \$15,447 (U) \$43,439	Piggyback/secondary payload launch/mission studies, Aerospace support, mission support, and Program Office support. Completion of STEP-4 and ARGOS satellites; launch processing and initial operations support for STEP-4, ARGOS, and FORTE missions. Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support. Continue development of TSX-5 satellite and launch service; incremental funding of Taurus for Multispectral Thermal Imager (MTI) mission. Total	rospace support, mission support, and Program Office sucessing and initial operations support for STEP-4, ARGF-launch processing, and launch support.	pport. OS, and FORTE missions. ermal Imager (MTI) mission.
5555	FY 1998 \$13,004 \$ 4,350 \$ 2,900	Piggyback/secondary payload launch/mission studies, Aerospace support, mission support, and Program Office support. Contract close-out and operations support for ARGOS and STEP-4. Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support. Complete development of TSX-5; begin development of TSX-6 and first EELV mission (dedicated STP mission); incremental funding of Taurus for MTI mission: Januch processing and initial operations enumber for TSY-5 mission.	launch/mission studies, Aerospace support, mission support, and Program Office support. ons support for ARGOS and STEP-4. ering, analysis, pre- and post-launch processing, and launch support. K-5; begin development of TSX-6 and first EELV mission (dedicated STP mission); increstly processing and initial operations support for TSX-5.	pport. ; incremental funding of
(D) -	(U) \$42,241	Total		
Project 2617	517	1	Page 2 of 6 Pages Exh	Exhibit R-2 (PE 0603402F)
		•	1122	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2	Exhibit)	DATE	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0603402F Space Test Program	se Test Prog	ram (Space)	PROJECT 2617
 (U) <u>FY 1999</u> (U) \$ 12,193 Piggyback/secondary payload launch/mission studies, Aerospace support, mission support, and Program Office support. (U) \$ 3,000 Space Shuttle payload engineering, analysis, pre- and post-launch processing, and launch support. (U) \$ 15,961 New mission studies/development. (Experiments to be selected based on 1997 and 1998 Space Experiments Review Board results.) (U) \$ 25,003 Close out TSX-5 contract; continue development of TSX-6 and EELV missions; launch processing and initial operations support of MTI mission. (U) \$ 56,157 (U) \$ 56,157 	space support, mission s aunch processing, and la cted based on 1997 and and EELV missions; la	upport, and Progranch support. 1998 Space Expernch processing a	ram Office support. riments Review Board re nd initial operations supp	esults.) port of MTI
(U) B. Program Change Summary (\$ in Thousands) FY 1996 (U) Previous President's Budget (U) Appropriated Value	FY 1997 44,752 44,752	<u>FY 1998</u> 45,731	<u>FY 1999</u> 46,701	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	-1,174			
e. Rescission (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	43,439	-3,490 42,241	9,456 56,157	
(U) Change Summary Explanation: Funding: FY96 reductions for higher priority Air Force requirements. FY98-FY03 dollars increased due to PDM I adds. FY98 dollars rephased into FY99 by OSD because of execution.	Y98-FY03 dollars incre	ased due to PDM	I adds. FY98 dollars rep	phased into FY99 by
Schedule: Not applicable.				
Technical: Not Applicable.				
(U) C. Other Program Funding Summary (\$ in Thousands):				
Related RDT&E: (U) PE #305119F, Medium Launch Vehicles				
Project 2617 Pag	Page 3 of 6 Pages		Exhibit R-2 (PE 0603402F)	E 0603402F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0603402F Space Test Program (Space)	
Experiments are funded by many S&T PE's in: Air Force, Army, Navy, ARPA, BMDO, DoE, NASA, and NRO programs.	MDO, DoE, NASA, and NRO programs.	
Project 2617	Page 4 of 6 Pages Exhib	Exhibit R-2 (PE 0603402F)
	1124	

RDT&E BUDGET		SO ≥	STIF	CATI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEE	T (R	-2 EX	hibit			Δ	DATE	1 2	Fobrason, 1007	
BUDGET ACTIVITY					30	SITIT ON A GRANITIE	T GNA 5	u E				\forall		n na	133	
					96	0603402F	2F St	Jace 1	Fest P	Space Test Program	S) mi	(Space)			PROJE 2617	PROJECT 2617
(U) D. Schedule Profile (Current projection. I	Experir	nents ar	e added	as new	Experiments are added as new spaceflight opportunities and budget permits)	ght opp	ortunitie	es and b	ndget p	ermits)						
		FY 1996	966			FY 1997	266			FY 1998	866			FY 1999	666	
	I	2	3	4		2	3	4	-	2	3	4	-	2	3	4
(U) STS-72 FLEX BEAM, STL/NIH-C (P93-6)		×														
(U) REX II (P94-2)		×					T	T	†		1			1	+	
(U) BINRAD (COSMOS) (P93-1)		×				<u> </u>		T	T		T		1		\dagger	
(U) STS-76 TRIS II (S85-2)		×			-								\dagger		-	
(U) STS-77 LMTE (LiTE), STL-A (S93-5)			×										1	+		
(U) STS-78 STL, MSX		-	×							T					l	T
(U) STS-79 MSX, SIMPLEX				×					r	T				-		Τ
(U) STS-80 CCM-A, MSX					×									-	-	T
(U) STS-81 CREAM, MSX						×										T
(U) STS-82 MSX						×						-			-	
(U) STS-83 CRYOFD, MSX						×							-			Τ
(U) STS-84 RME-III, CREAM, MSX,							×			l				\mid	-	T
SIMPLEX																-
(U) MPTB (Classified Host) (S96-1)						-	-	×								
(U) FORTE (P94-1)								×								
(U) STEP 4 EMPE, OOAM, DIDM (P95-A)								×								
(U) ARGOS - ESEX, USA, GIMI, CIV,							-	×				-	l		-	
SPADUS, HIRAAS, HTSSE II, EUVIP (P91-1)		-,														
(U) STS-85 CFE, MSX, SIMPLEX	T						 	×	\mid	+	+					
(U) STS-86 MSX, SIMPLEX, CREAM				-				×			-					
(U) STS-87* MSX, SIMPLEX			-						×						l	Ţ
(U) STS-88* MightySat I, MSX, SIMPLEX					-	-	\dagger		×				+	+		Τ
(U) POAM III (SPOT IV) (S96-2)			-	-					\vdash	×	-	-	\dagger	T	\dagger	
(U) STS-89* CREAM, MSX, SIMPLEX				T					-	×	-	-		1	i	
(U) TSX-5 STRV II, CEASE (P95-2)				-					+	+	×					T
(U) POGS-II (S92-1)														×		Ī
Project 2617				- d	Page 5 of 6 Pages	f 6 Page	×.				1	Evhihit R-2 (DE 0603402E)) /DE (080340	ļ 	
						3000					اُذ	A HOIL	7	0000	7.77	
					1125	χ;										

FICATION SHEET (R-2 Exhibit) DATE February 1997	LE ace Test Program (Space)	Page 6 of 6 Pages Exhibit R-2 (PE 0603402F)
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	6 - Management and Support *NOTE: NASA does not manifest shuttle flights (STS) beyond 18 months. Experiments are proposed	Project 2617

PE NUMBER: 0604256F

UNCLASSIFIED

PE TITLE: Threat Simulator Development

BUDGET ACTIVITY 6 - Management and Support FY 1996 FY 1997 FY 1998 FY 1998 FY 1999 FY 2000 FY 2000 FY 2002 FY 2003		RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	t-2 Exhi	bit)		DATE F.	February 1997	292
FY 1996 Actual FY 1997 Estimate Estimate FY 1998 Estimate Estimate FY 1999 Estimate Estimate FY 2000 Estimate Estimate FY 2002 Estimate Estimate FY 2002 Estimate Estimate Estimate Estimate Estimate Estimate Estimate Estimate Estimate <	- 9	GET ACTIVITY Management and Support			PE NI 060	JASER AND 14256F T	тть hreat Sir	nulator D	evelopm	1		
57,046 53,496 51,846 36,238 38,316 40,691 38,781 43,023 38,917 50,305 34,275 31,342 32,178 29,362 e 1,0242 10,836 0 0 0 0 0 e 1,937 1,948 0 0 0 0 0 f 1,844 1,795 1,541 1,963 2,022 2,079 2,000 f 0 0 0 0 0 0 0		COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
43,023 38,917 50,305 34,275 31,342 32,178 29,362 3 e 10,242 10,836 0	:	Total Program Element (PE) Cost	57,046	53,496	51,846	36,238	38,316	40,691	38,781	39,716	Continuing	TBD
e 1,937 1,948 0 0 0 0 0 0 0 1,844 1,795 1,541 1,963 2,022 2,079 2,000 0 0 0 4,952 6,434 7,419 0 0 0 0 0 0	3321	Electronic Warfare Test Resources	43,023	38,917	50,305	34,275	31,342	32,178	29,362	30,039	Continuing	TBD
TSCAT) Upgrade 1,937 1,948 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6510) Electronic Warfare Flight Test Resources	10,242	10,836		0	0	0	0	0	0	0
upport 1,844 1,795 1,541 1,963 2,022 2,079 2,000 0 0 0 0 4,952 6,434 7,419 s 0 0 0 0 0 0	2900) Radar Target Scatter (RATSCAT) Upgrade	1,937	1,948		0	0	0	0	0	0	0
s 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2907	Electronic Warfare Intel Support	1,844	1,795	1,541	1,963	2,022	2,079	2,000	2,047	Continuing	TBD
0 0 0 0	7500	Foreign Materiel Program	0	0	0	0	4,952	6,434	7,419	7,630	Continuing	TBD
		Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

improvement is pursued in concert with the others so as to avoid duplicate capabilities while at the same time produce the proper mix of test resources needed to support the (FMOT&E). In FY 98, Projects 6510, Electronic Warfare Flight Test Resources, and 2900, RATSCAT Upgrade were combined into Project 3321, Electronic Warfare Test AF EW Test Process. This PE provides funding for the management and technical oversight of implementation activities, the Air Force-led tri-Service effort to establish a installed system test facility improvement, and development and improvement of open air threat simulators for flight testing. This PE also provides funding to support the acquisition and exploitation efforts of the Foreign Materiel Program, as well as to support EW intelligence efforts through foreign materiel operational test and evaluation Process. This test process provides a methodology to ensure the effective disciplined and efficient testing of AF EW and avionics systems. Each capability or facility (U) A. Mission Description and Budget Item Justification: This PE provides funding for the elements necessary to support the AF Electronic Warfare (EW) Test common modeling and simulation architecture, measurement facilities operation and improvements, hardware in the loop test facilities operation and improvements, Resource as part of consolidation and simplification efforts in T&E investment accounts.

Page 1 of 17 Pages

Exhibit R-2 (PE 0604256F)

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RDT&E BUDGET ITEM JU	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	Īŧ	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604256F Thres	ΝΟ ΤΙΤΙΕ Threat Sim	PE NUMBER AND TITLE 0604256F Threat Simulator Development	3
(U) B. Program Change Summary (\$ in Thousands)					
(U) Previous President's Budget(U) Appropriated Value(II) Adjustments to Appropriated Value	<u>FY 1996</u> 55,113 55,410	FY 1997 43,635 55,435	FY 1998 44,879	<u>FY 1999</u> 33,689	Total <u>Cost</u>
a. Cong Adjustments b. SBIR c. Omnibus or Other Above Threshold Reprogram		-1,203 -736			
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB 	1,636 57,046	53,496	6,967 51,846	2,549 36,238	
(U) Change Summary Explanation: Funding: FY 98: Electronic Combat Integrated Test (ECIT) Increased J-MASS Threat Modeling General program reductions		+3,283 +7,531 - 3,847			
FY 99: Increased J-MASS Threat Modeling General program reductions		+4,600			
Schedule: None.					
Technical: None.					
	$Pa_{\mathcal{E}}$	Page 2 of 17 Pages		Ex	Exhibit R-2 (PE 0604256F)
		1100			

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	 F CA1	TION SH	EET (R	-2 Exhit	oit)		DATE Feb	February 1997	7
BUDGET ACTIVITY 6 - Management and Support			PE NU	PE NUMBER AND TITLE 0604256F Thres	nte hreat Sim	PE NUMBER AND TITLE 0604256F Threat Simulator Development	evelopm	ent		
(U) C. Other Program Funding Summary (\$ in T	in Thousands)		i							
	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
Appropriation: Military Construction, Budget Activity: Defense-Wide Mission Support, Program Title: Electronic Combat Integrated Test (ECIT) Appropriation: RDT&E,	11,100	4,900							N/A	16,000
Budget Activity: Defense-Wide Mission Support, Program Title: Central Test and Evaluation Investment Program (CTEIP)	21,214	37,600	39,643	26,100					N/A	124,557
Related RDT&E: (U) PE 0604759F, Major T&E Investment (U) PE 0604735F, Combat Training Ranges										
(U) D. Schedule Profile	FY 1996		되, -	FY 1997	•	FY 1998		<u>-</u>	Y 199	
(U) REDCAP Surveillance Radar Integration (Option C) Complete	7	4	7	n ×	4	٧	ე 4	7	n	4
 (U) AFEWES RAI Upgrade IOC. (U) J-MASS Releases. (U) AAIS IOC (U) ECIT Infrastructure and Generic Test 	×		×		×				>	×
									<	
			Page 3 of 17 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0604256F)	04256F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE Fat	Fohrusty 1007	67
BUDGET ACTIVITY 6 - Management and Support			PE NI 090	PE NUMBER AND TITLE 0604256F Threa	пт _{LE} hreat Sin	nulator D	PE NUMBER AND TITLE 0604256F Threat Simulator Development		a P	3321
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3321 Electronic Warfare Test Resources	43,023	38,917	50,305	34,275	31,342	32,178	29,362	30,039	30,039 Continuing	TBD
Quantity of RDT&E Articles										
										-

Modeling and Simulation System (J-MASS) is an Air Force-led, tri-service project to establish a common, DoD-wide, digital simulation architecture in support of T&E. The (RCS) measurement requirements of DoD customers. The Hardware in the Loop (HITL) test facilities evaluate electronic support and countermeasures effectiveness prior to current J-MASS program supports model development to meet the needs of the B-1B Defensive System Upgrade Program (DSUP). The expanded J-MASS project includes development of a limited set of threat and environment models to support acquisition and test of multiple programs including the B-1B, F-22, and Joint Strike Fighter (JSF). Program (CTEIP). In FY 98, Projects 6510, Electronic Warfare Flight Test Resources, and 2900, RATSCAT Upgrade were combined into Project 3321, Electronic Warfare (U) A. Mission Description and Budget Item Justification: The AF requires a comprehensive set of test facilities to implement the Air Force Electronic Warfare (EW) effectively and efficiently, a spectrum of T&E capabilities from modeling and simulation through open-air ranges is required. The EW Test Process Support task provides Digitally Controlled Analyzer and Processor (REDCAP), provide the ability to realistically evaluate hardware components against manned hardware threat representations early enough to affect final system design. The Electronic Combat Integrated Test (ECIT) project upgrades the AF Installed System Test Facility (ISTF) at Edwards AFB, installation on the aircraft. Together, the two AF HITL facilities, the Air Force Electronic Warfare Evaluation Simulator (AFEWES) and the Real Time Electromagnetic The Radar Target Scatter (RATSCAT) upgrade project provides improvements to the RATSCAT measurement facility at Holloman AFB to support radar cross section CA. This ISTF consists of a large, instrumented, anechoic chamber which provides for evaluation of an EW system when installed on its host aircraft, both prior to and during flight test. The Advanced Airborne Interceptor Simulator (AAIS) project funds development and acquisition of advanced signal sources to represent ground and for investment management, coordinated technical oversight, and application of EW T&E facilities, including studies, analyses, and related documentation. The Joint airborne threats during EW open-air testing. RATSCAT Upgrades, ECIT, and AAIS also receive OSD funding through the Central Test and Evaluation Improvement Test Process. In order that program risk can be managed effectively throughout the weapon system acquisition process, and test and evaluation (T&E) be conducted Test Resources.

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Project 3321

Exhibit R-2 (PE 0604256F)

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R	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	and Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development	1
(U) <u>FY 1996 (\$ in Thousands)</u> - (U) \$1,497 EW Test each phas	Thousands): EW Test Process Support. Continued the definition of a test facilities network that will support the full application of the EW Test Process in each phase of the DoD System Acquisition Process for federated and integrated avionics systems. Formulated an investment strategy and	a test facilities network that will support the fui federated and integrated avionics systems. For	application of the EW Test Process in mulated an investment strategy and
- (U) \$2,624	unprementation plan to realize his network. J-MASS. Developed capability to run simulations composed of models that can be written on a variety of hardware platforms. Integrated MOSAIC models to provide an infrared simulation capability. Integrated the SUPPRESSOR model to provide mission fraining. Continued	posed of models that can be written on a variet ability. Integrated the SUPPRESSOR model to	of hardware platforms. Integrated provide mission training. Continued
- (U) \$7,592	providing J-MASS user support and training. Added terrain modeling and an object-oriented database management system. AFEWES Operation and Upgrade. Continued AFEWES operations in support of Air Force, Army, Navy, and non-DoD test customers. Completed development of the Test Director Station and Reconfigurable Airborne Interceptor (RAI) simulator. Upgraded the TWS-10 simulator to conform to the latest intelligence data. Initiated upgrades to the infrared (IR) laboratories to test integrated IR alertresnonse improve	support and training. Added terrain modeling and an object-oriented database management system. d Upgrade. Continued AFEWES operations in support of Air Force, Army, Navy, and non-DoD test customers. t of the Test Director Station and Reconfigurable Airborne Interceptor (RAI) simulator. Upgraded the TWS-10 s intelligence data. Initiated upgrades to the infrared (IR) laboratories to test integrated IR alert/resnonse immove	management system. Vy, and non-DoD test customers. mulator. Upgraded the TWS-10 simulator egrated IR alert/resnonse immrove
- (U) \$12,665	jammer-to-signal (I/S) ratio, and IR computer. REDCAP Operation and Upgrade. Continued REDCAP operations in support of Air Force, Army, Navy, and non-DoD test customers. Initiated	operations in support of Air Force, Army, Na	vy, and non-DoD test customers. Initiated
- (U) \$18,645	digital threat system modeling and simulation, including an integrated air defense model in support of the EW Test Process. ECIT. Completed risk-reduction phase and selected contractor for full-scale development of generic EW and avionics installed system test facility. Began military construction of ECIT facilities	s an integrated air defense model in support of itractor for full-scale development of generic E	he EW Test Process. W and avionics installed system test
- (U) \$43,023	Total		
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$1,475 EW Test I	Thousands): EW Test Process Support. Begin implementation of the FW test facilities network. Continue the analysis and alonging of magnetic and along the magnetic and along the magnet	FW test facilities network Continue the anal	eic and planning of manadas to the
- (U) \$3,895	network to improve implementation of the EW Test Process and support emerging EW technologies. J-MASS. Improve model and scenario development tools, such as visual programming, graphical user interface, hardware-in-the-loop and man-	cess and support emerging EW technologies. ls, such as visual programming, graphical user	interface, hardware-in-the-loop and man-
976 C\$ (II) —	In-the-loop, and data management capabilities. Increase simulation speed. Increase the number of hardware platforms that J-MASS can support. Support a growing library of models, and provide user training, support and documentation.	simulation speed. Increase the number of har aining, support and documentation.	Iware platforms that J-MASS can support.
(U) \$6,527	Complete IR laboratory upgrades. REDCAP Operation and Upgrade. Continued operation in support of Air Force. Army, Navy, and non-DoD test customers.	Upgrades. Upgrades. Upgrades. Upgrades. Upgrades. Continued operation in support of Air Force. Army, Navy, and non-DoD test customers.	y, and non-DoD test customers.
- (U) \$19,275	radar signature simulations into the Digital Integrated Air Defense System (DIADS) model. ECIT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. Complete military construction	ir Defense System (DIADS) model. ric EW and avionics installed system test capa	oilities. Complete military construction
- (U) \$4,799	efforts for ECIT facilities. Eglin Test and Training Range Operations and Upgrade.	s. Range Operations and Upgrade. Funds development of threat system simulators (emitters, signal sources, real world	rs (emitters, signal sources, real world
- (U)\$38,917	uneat systems with instrumentation) and intelligence upgrequirements. Total	umentation) and intelligence upgrades of existing systems to support Air Force Special Operations Command	Special Operations Command
Project 3321	Page	Page 5 of 17 Pages	Exhibit R-2 (PE 0604256F)

2	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fohrigan 1007
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604256F Threat Simulator Development	
(U) FY 1998 (\$ in Thousands) - (U) \$11,395	EW Test Process Support. Continue implementation and EW test facilities network. J-MASS. Continue to improve model and scenario development tools. Increase number and maintain EW model library. Develop and implement J-MASS compliant models of (AAMs) and Airborne Interceptors (AIs) to support acquisition and test of multiple prog RATSCAT Upgrades. Procure radar system and integration for RAMS Radar Replacembackground clutter reduction techniques. AFEWES Operation and Upgrade. Continue AFEWES operations in support of Air For upgrades of RF and IR HITL simulations. REDCAP Operation. Transition Integrated Air Defense System (IADS) HITL capability. Air Force, Army, Navy and non-DoD test customers with digital IADS HITL capability. ECIT. Continue development of infrastructure and generic EW and avionics installed sy efforts for ECIT facilities. AAIS. Complete integration and begin testing.	EW Test Process Support. Continue implementation and EW test facilities network. J-MASS. Continue to improve model and scenario development tools. Increase number of hardware platforms supported by J-MASS. Operate and maintain EW model library. Develop and implement J-MASS compliant models of surface-to-air missiles (SAMs), Air-to-Air Missiles (AAMs) and Airborne Interceptors (AIs) to support acquisition and test of multiple programs including the B-1, F-22, and JSF. RATSCAT Upgrades. Procure radar system and integration for RAMS Radar Replacement program. Begin preliminary design of advanced background culter reduction techniques. AFEWES Operation and Upgrade. Continue AFEWES operations in support of Air Force, Army, Navy, and non-DoD test customers. Continue upgrades of RF and IR HITL simulations. REDCAP Operation. Transition Integrated Air Defense System (IADS) HITL capability to the Air Force Flight Test Center (AFFTC). Support Air Force, Army, Navy and non-DoD test customers with digital IADS HITL capability. ECIT. Continue development of infrastructure and generic EW and avionics installed system test capabilities. Complete military construction efforts for ECIT facilities. AAIS. Complete integration and begin testing.	pported by J-MASS. Operate LMs), Air-to-Air Missiles 22, and JSF. innary design of advanced DoD test customers. Continue sst Center (AFFTC). Support uplete military construction
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$1,393 EW Test 1 - (U) \$8,631 J-MASS. - (U) \$1,980 RATSCA elements to concepts. - (U) \$2,679 AFEWES - (U) \$1,597 REDCAP - (U) \$1,897 REDCAP - (U)	Thousands): EW Test Process Support. Continue implementation and EW test facilities network. J-MASS. Continue to improve model and scenario development tools. Increase number of ha and maintain EW model library. Continue development and implementation of J-MASS comp RATSCAT Upgrades. Complete integration of RAMS radar replacement. Complete transfer of elements to operational status. Continue design of advanced background reduction techniques concepts. AFEWES Operation. Continue AFEWES operations in support of Air Force, Army, Navy, and REDCAP Operation. Support Air Force, Army, Navy and non-DoD test customers with digita ECIT. Complete development of infrastructure and generic test capability. Integrate with CTF communications-navigation-identification (CNI) simulator in preparation for customer testing. AAIS. Complete testing and deliver pod system to users. Total	EW Test Process Support. Continue implementation and EW test facilities network. J-MASS. Continue to improve model and scenario development tools. Increase number of hardware platforms supported by J-MASS. Operate and maintain EW model library. Continue development and implementation of J-MASS compliant SAM, AAM and AI models. RATSCAT Upgrades. Complete integration of RAMS radar replacement. Complete transfer of all Advanced Static RCS Measurement program elements to operational status. Continue design of advanced background reduction techniques and begin design of advanced target support sconcepts. AFEWES Operation. Continue AFEWES operations in support of Air Force, Army, Navy, and non-DoD test customers. REDCAP Operation. Support Air Force, Amy, Navy and non-DoD test customers with digital IADS HITL capability. ECIT. Complete development of infrastructure and generic test capability. Integrate with CTEIP funded radar target generator (RTG) and AAIS. Complete testing and deliver pod system to users. Total	pported by J-MASS. Operate d AI models. c RCS Measurement program advanced target support omers. lity. et generator (RTG) and
Project 3321	Page	Page 6 of 17 Pages	Exhibit R-2 (PE 0604256F)

RDT&E BUDGET ITEM JUS	STIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE Februs	February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604256F Thres	D TITLE Threat Sim	PE NUMBER AND TITLE 0604256F Threat Simulator Development	pment	PROJECT 3321
(U) B. Program Change Summary (\$ in Thousands)					Total	
(U) Previous President's Budget (U) Appropriated Value	FY 1996 41,090 41,090	FY 1997 28,744 40,544	FY 1998 42,975	FY 1999 31,708	Cost	
(U) Adjustments to Appropriated Valuea. Cong Adjustmentsb. SBIR		-891 -736				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB	1,933 43,023	38,917	7,330 50,305	2,567 34,275		
(U) Change Summary Explanation: Funding: FY 98:	-	600				
Electronic Combat Integrated Test (ECLT) Increased J-MASS Threat Modeling General program reductions	+ •	+3,283 +7,531 - 3,484				
FY 92: Increased J-MASS Threat Modeling General program reductions	T I	+4,600 - 2,033				
Schedule: None.						
Technical: None.						
Project 3321	Pa	Page 7 of 17 Pages	:	Ð	Exhibit R-2 (PE 0604256F)	256F)

RDT&E BUDGET IT	SUC M	TIFICA	FION SE	EM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)		DATE Feb	February 1997	
BUDGET ACTIVITY 6 - Management and Support			PE NU 0 0 0	PE NUMBER AND TITLE 0604256F Threa	D TITLE Threat Simulator Development	ulator D	evelopm		93 33	PROJECT 3321
(U) C. Other Program Funding Summary (\$ in 1	Thousands)									
Appropriation: Military Construction, Budget Activity: Defence-Wide Mission Summer	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Com <u>pl</u>	Total Cost
Program Title: Electronic Combat Integrated Test (ECIT) Appropriation: RDT&E, Budget Activity: Defense-Wide Mission Support	11,100	4,900							N/A	16,000
Program Title: Central Test and Evaluation Investment Program (CTEIP)	21,214	37,600	39,643	26,100					N/A	124,557
Related RDT&E: (U) PE 0604759F, Major T&E Investment (U) PE 0604735F, Combat Training Ranges										
(U) D. Schedule Profile										
(U) REDCAP Surveillance Radar Integration (Option C) Complete	FY 1996 2 3	4	1 2 E	FY 1997 2 3 X	4	FY 1998 2 3	8) E	1 2	FY 1999 2 3	4
(U) J-MASS Releases. (U) J-MASS Releases. (U) AAIS IOC (U) ECIT Infrastructure and Generic Test Capability (I>C) IOC	*		×		×				×	×
Project 3321			Page 8 of 17 Pages	7 Pages			Exhibit	Exhibit R-2 (PE 0604256F)	04256F)	

RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	TEET (R	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	397
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0604256F Thres	ппс hreat Sir	nulator [PE NUMBER AND TITLE O604256F Threat Simulator Development	Ī		PROJECT 6510
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
6510 Electronic Warfare Flight Test Resources	10,242	10,836	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles										

effectively and efficiently, a spectrum of T&E capabilities from modeling and simulation through open-air ranges is required. The Advanced Airborne Interceptor Simulator (U) A. Mission Description and Budget Item Justification. The AF requires a comprehensive set of test facilities to implement the Air Force Electronic Warfare (EW) (AAIS) project funds development and acquisition of advanced signal sources to represent ground and airborne threats during EW open-air testing. In FY 98, Projects 6510, Electronic Warfare Flight Test Resources, and 2900, RATSCAT Upgrade were combined into Project 3321, Electronic Warfare Test Resources. Test Process. In order that program risk can be managed effectively throughout the weapon system acquisition process, and test and evaluation (T&E) be conducted

- (U) FY 1996 (\$ in Thousands):

 (U) \$10,242 AAIS. Completed design phase and began fabrication phase.

 (U) \$10,242 Total
- (U) FY 1997 (\$ in Thousands):
- AAIS. Complete fabrication phase. Begin preparation for integration/testing phases. - (U) \$10,836
 - Total (U) \$10,836
- (U) FY 1998 (\$ in Thousands):
- Not applicable. 0\$ (n)
- (U) <u>FY 1999 (\$ in Thousands):</u> (U) \$0 Not applic
- Not applicable.

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Project 6510

Exhibit R-2 (PE 0604256F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhib	Ē		DATE Febr	February 1997	_
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604256F Threat Simulator Development	тпе hreat Sim	ulator De	velopm	ent	PR 65	PROJECT 6510
(U) B. Program Change Summary (S in Thousands)							i
(U) Previous President's Budget 10,242 (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	FY 1997 11,067 11,067	FY 1998	FY 1999	Q.	Total <u>Cost</u>	·	,
b. SBIK c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB	10,836						
(U) Change Summary Explanation: Funding:							
Schedule:							
Technical:							
(U) C. Other Program Funding Summary (\$ in Thousands)						É	Ē
(U)	FY 1998 FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Compl	Cost
(U) D. Schedule Profile							
(U) AAIS IOC 1996 4	$\frac{\text{FY } 1997}{2}$	4	FY 1998 2 3	4	7 2 E	FY 1999 2 3	4 X
Project 6510	Page 10 of 17 Pages			Exhibit	Exhibit R-2 (PE 0604256F)	04256F)	
	1126						

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	766
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0604256F Thres	ritle hreat Sin	nulator E	PE NUMBER AND TITLE O604256F Threat Simulator Development			РКОЈЕСТ 2900
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2900 Radar Target Scatter (RATSCAT) Upgrade	1,937	1,948	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles										

(U) A. Mission Description and Budget Item Justification. This project provides improvements to the Radar Target Scatter (RATSCAT) facility in order to assure support testing, pylon background reduction, low frequency measurement capability upgrades, and efficiency related equipment. The DoD continues an aggressive R&D program to provides funding for the Data Acquisition and Processing System (DAPS), Bistatic Coherent Measurement System (BICOMS), RATSCAT Advanced Measurement System funds part of the hardware and labor. For the Next Generation Pylon, CTEIP funds the pylon and installation. For RAMS Radar Replacement, CTEIP funds the hardware achieve low observable technology. This project provides a continuous effort to allow test technology to keep pace with these activities. In a related effort, OSD CTEIP to address radar cross section (RCS) measurement requirements of DoD customers. Key areas of improvement complement and support the existing stand-alone Central and labor. In FY 98, Projects 6510, Electronic Warfare Flight Test Resources, and 2900, RATSCAT Upgrade were combined into Project 3321, Electronic Warfare Test (RAMS) Radar Replacement, and the Next Generation Pylon. For DAPS, CTEIP funds the hardware, development, instrumentation, and spares. For BICOMS, CTEIP Test and Evaluation Improvement Program (CTEIP) funded program and include radar upgrades standardization of data processing equipment and techniques, bistatic Resources

(U) FY 1996 (\$ in Thousands):

- RATSCAT Upgrades. Procured risk reduction hardware for North Range Radar efficiency upgrades. Completed the design specifications for RAMS Radar Replacement. Bought additional Data Acquisition and Processing Systems (DAPS). - (U) \$1,937
 - (U) \$1,937

(U) FY 1997 (\$ in Thousands):

- RATSCAT Upgrades. Complete procurement of DAPS for Mainsite. Continue North Range Radar Improvements. Procure RAMS radar to improve the dynamic range and system sensitivity. Total - (U) \$1,948
 - (U) \$1,948

(U) FY 1998 (\$ in Thousands):

Not applicable. 9

(U) FY 1999 (\$ in Thousands):

Project 2900

Exhibit R-2 (PE 0604256F)

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			٦
February 1997	PROJECT 2900		E 0604256F)
DATE	1		Exhibit R-2 (PE 0604256F)
2 Exhibit)	PE NUMBER AND TITLE 0604256F Threat Simulator Development		
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0604256F Threa		Page 12 of 17 Pages 1138
USTIFICATIO			Pag
GET ITEM J	t	မှု	
RDT&E BUE	BUDGET ACTIVITY 6 - Management and Support	Not applicable.	
	BUDGET ACTIVITY 6 - Manageme	(a) -	Project 2900

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	Ω	DATE February 1997	1997
BUDGET ACTIVITY 6 - Management and Support	PENUMBER AND TITLE 0604256F Threat Simulator Development	r Developme	nt	РРОЈЕСТ 2900
(U) B. Program Change Summary (\$ in Thousands)				
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	FY 1997 FY 1998 FY 1,990 1,990 -42	FY 1999	<u>Cost</u>	
 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB 1,937 	1,948			
(U) Change Summary Explanation: Funding: None.				·
Schedule: None.				
Technical: None.				
(U) C. Other Program Funding Summary (\$ in Thousands)				
(U)	FY 1998 FY 1999 FY 2000 FY 2001	FY 2002	To FY 2003 Compl	Total Cost
(U) D. Schedule Profile				
$\frac{\text{FY 1996}}{1 2 3 4} $ (U)	FY 1997 2 3 4 1 2	FY 1998 2 3 4	FY 1999	4
Project 2900	Page 13 of 17 Pages	Exhibit	Exhibit R-2 (PE 0604256F)	
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RDT&E BUDGET IT	FEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fet	Fehrijary 1997	797
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0604256F Threa	וודרב hreat Sin	nulator [PE NUMBER AND TITLE 0604256F Threat Simulator Development	1		PROJECT 2907
COST (\$ in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2907 Electronic Warfare Intel Support	1,844	1,795	1,541	1,963	2,022	2,079	2,000		2,047 Continuing	TBD
Quantity of RDT&E Articles										

and laboratory costs, costs for instrumentation of blue systems; contracted engineering support for the conduct of tests and subsequent reporting. Funding for this program is required to prevent future aircraft losses due to improper and inaccurate aircrew tactics (e.g., lack of evasive action or proper tactics training to avoid missile attack). deployment of blue systems to test facilities, travel for personnel to the test sites to evaluate and validate test results real-time, reimbursement for industrial-funded range (U) A. Mission Description and Budget Item Justification. This project provides funding to support Foreign Materiel Operational Test and Evaluation (FMOT&E) which ensures the ability of operational commands to test and develop effective Electronic Attack/Electronic Protection (EA/EP) and tactics. Funds are required for:

(U) FY 1996 (\$ in Thousands):

Funded testing for foreign materiel operational exploitation. Accomplished extensive evaluations and reporting. (U) \$1,844 (U) \$1,844

Total

FY 1997 (\$ in Thousands): 9

Funds continued testing for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished.

Total (U) \$1,795 (U) \$1,795 FY 1998 (\$ in Thousands): 3

Funds continued testing for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished. (U) \$1,541

Total (U) \$1,541 (U) FY 1999 (\$ in Thousands):
- (U) \$1,963 Funds con
- (U) \$1,963 Total

Funds continued testing for foreign materiel operational exploitation. Extensive evaluations and reporting to be accomplished.

Project 2907

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Exhibit R-2 (PE 0604256F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHE	ET (R-2 Ex	hibit)	DATE Februa	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBI 06042	PE NUMBER AND TITLE 0604256F Threat S	PE NUMBER AND TITLE 0604256F Threat Simulator Development	opment	РРОЈЕСТ 2907
(U) B. Program Change Summary (\$ in Thousands)					
F <u>Y</u> Budget opriated Value	FY 1996 FY 1997 1,834 1,834 1,834	7 <u>FY 1998</u> 4 1,904	EV 1999 1,981	Total Cost	
Some State of the Special State of the Special State of Channibus or Other Above Threshold Reprogram Below Threshold Reprogramming Justments to Budget Years Since FY 1997 PB rrent Budget Submit/FY 1998 PB ange Summary Explanation: Funding: Minor adjustments in FY 1998. Schedule: None.	1,844 1,834	-357	7 1,981		
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) N/A	FY 1998	FY 1999 FY 2000	0 FY 2001 FY 2002	FY 2003	To Total Compl Cost
(U) D. Schedule Profile	ļ	Ş	2001	ž	
(U) N/A 1 2 3 4	1 2 3	3 4 4	$\begin{array}{ccc} & \frac{\Gamma \Upsilon & 1998}{2} \\ 1 & 2 & 3 \end{array}$	4 1 2	2 3 4
Project 2907	Page 15 of 17 Pages	ages	Ш	Exhibit R-2 (PE 0 <u>6</u> 04256F)	256F)
	1111				

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	TION S	HEET (R	-2 Exhil	bit)		DATE Fet	February 1997	260
BUDGET ACTIVITY 6 - Management and Support			PE NI 090	PE NUMBER AND TITLE 0604256F Threa	птге hreat Sin	nulator D	E NUMBER AND TITLE 0604256F Threat Simulator Development	ent	7	РРОЈЕСТ 7500
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
7500 Foreign Materiel Program	0	0	0	0	4,952	6,434	7,419		7,630 Continuing	TBD
Quantity of RDT&E Articles										

(U) A. Mission Description and Budget Item Justification: This project is established for the specific purpose of supporting the USAF Foreign Materiel Program in the acquisition and exploitation of foreign materiel. Items considered for these Foreign Materiel Acquisition and Exploitation (FMA) list established each year and are not eligible for OSD FMA&E funds. The USAF FMA list is established annually by Major Command representatives using specific criteria and a well-established process. The draft list is then approved by each Major Command and final approval comes from the Air Force Vice Chief of Staff. Exploitations are based on and driven by acquisitions.

- (U) FY 1996 (\$ in Thousands):
 - (U) Not applicable.
- (U) FY 1997 (\$ in Thousands):
 (U) Not applicable.
- (U) FY 1998 (\$ in Thousands):
 (U) Not applicable.
- (U) FY 1999 (\$ in Thousands):
 (U) Not applicable.

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Project 7500

Exhibit R-2 (PE 0604256F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	Œ	DATE Febru	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604256F Thres	ղղլ <u>բ</u> hreat Simւ	отпте Threat Simulator Development	1	PROJECT 7500
(U) B. Program Change Summary (\$\$ in Thousands) (U) Previous President's Budget (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB (U) Current Budget Submit/FY 1998 PB (U) Change Summary Explanation: Funding: None.	FY 1997	FY 1998	FY 1999	Total <u>Cost</u>	
Schedule: None. Technical: None.					
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY 1997 F	FY 1998 FY 1999	FY 2000	FY 2001 FY 2002	FY 2003	To Total Compl Cost
(U) N/A EY 1996 FY 1996 1 2 3 4 1	FY 1997 2 3	4 L	FY 1998 2 3 4	1 2	FY 1999 2 3 4
Project 7500	Page 17 of 17 Pages		Exhib	Exhibit R-2 (PE 0604256F)	256F)

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PE NUMBER: 0604258F

UNCLASSIFIED

PE TITLE: Target Systems Development

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	१-2 Exhi	bit)		DATE Fet	February 1997	766
BUDGET ACTIVITY 6 - Management and Support			PE N(PE NUMBER AND TITLE 0604258F Targe	PE NUMBER AND TITLE 0604258F Target Systems Development	stems De	velopme	į		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	5,049	4,762	4,780	4,818	5,179	5,252	5,382	5,512	Continuing	TBD
2459 Target Payload	3,924	4,762	4,780	4,818	5,179	5,252	5,382	5,512	Continuing	ТВР
3165 QF-4 Development	1,125	0	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Aerial Targets are used to determine air-to-air weapons effectiveness and mission proficiency of our tactical systems against enemy aircraft. The overall objective is to Specialized target payload subsystems are developed for full-scale and subscale targets for missile scoring, electronic and infrared (IR) countermeasures, and radar and approach, essential to accurately calculate the probability of a kill. Electronic and infrared countermeasures being developed include chaff and flare dispenser systems. (RCS) Electronic Enhancement Mechanism (DREEM) is being developed to provide subscale RCS enhancement to replicate full size threat aircraft. This program also provided for the development of the QF-4E Full Scale Aerial Target until completed in FY 1996. This program is in budget activity 6 - Management Support because IR signature augmentation systems are developed for subscales to provide a signature representative of threat military jet engines. The Drone Radar Cross Section IR signature augmentation. An Interim Vector Scoring (IVS) system is being produced to provide missile path and position relative to the target at point of closest improve air-to-air weapons systems accuracy and reliability by developing improved aerial target systems for Air Force weapons system test and evaluation. it provides overall support to research and development activities.

(U) Acquisition Strategy:

The acquisition strategy is competitive, cost plus contracts.

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Exhibit R-2 (PE 0604258F)

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RDT&E BUDGET ITEM JUSTIFIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Exhib	Ę		DATE	Fob., 4007	
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604258F Targe	ND TITLE Target Systems Development	tems Deve	lopme	ł	ualy 1991	
(U) B. Program Change Summary (S in Thousands)							
(U) Previous President's Budget 5 (U) Appropriated Value 5 (U) Adjustments to Appropriated Value	FY 1996 5,362 5,362 7,966 7,966	FY 1998 5,223	FY 1999 5,367		Total <u>Cost</u> TBD		
old Reprogram	-105 -114 -91 -85						
d. Below Intestiold Keprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/ FY 1998 PB	-29 -33 -5 5,049 4,762	-443 4,780	-549		TBD		
 (U) Change Summary Explanation: Funding: Decrease in FY96 is due to the rescission to fund Bosnia and F-16s to Jordan Decreases in FY98 and FY99 occurred during FY98 PB formulation to fund higher Air Force priorities 	a and F-16s to Jordan I formulation to fund hig	her Air Force pri	orities				
Technical: None							
(U) C. Other Program Funding Summary (\$ in Thousands)							
(U) PE35116F: Appropriation: Missile Procurement, AF Budget Activity: 2 Program Title: Target Dronges	2 Program Title: Target D	9 FY 2000	FY 2001 F	FY 2002	FY 2003	To Compl	Total Cost
WSC: MQM107 (MQM-107E) 0 14,102 WSC: M04AQF (QF-4) 27,838 23,899 Spares: BQM-34, QF-4, MQM-107, QF-106 5,188 2,918	7,910 17,690 9 17,808 19,272 11,118 2,619	0 21,069 2 17,676 9 3,499	22,728 17,223 3,552	23,134 17,159 3,701	23,447 17,391 3,768	Cont Cont	TBD TBD TBD
(U) PE35116F: Appropriation: Operations and Maintenance, AF Budget Activity: 4 Program Title: Target Drones 410 662 2,579 2,469 1,889	Activity: 4 Program Title: '32 2,579 2,469	e: Target Drones 19 1,889	2,128	2,117	2,294	Cont	TBD
	Page 2 of 8 Pages			Exhibit	Exhibit R-2 (PE 0604258F)	4258F)	

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BUDGET ACTIVITY 6 - Management and Support (U) D. Schedule Profile 1 2 (U) Full-Scale Aerial Target Systems - QF-4 Contract Award 2/92 - White Sands (DT&E/OT&E) 3/95-1/96 - Production Options (Lots 2 & 3))	ו אחברו	TEM JUSTIFICATION SHEET (R-2 Exhibit)	OIT)		Щ	February 1997)7
1 92 &E) 3/95-1/96 X s 2 & 3)			PE NUMBER AND TITLE 0604258F Targe	PE NUMBER AND TITLE OCO4258F Target Systems Development	stems Dev	elopme	∍nt		
II-Scale Aerial Target Systems Contract Award 2/92 e Sands (DT&E/OT&E) 3/95-1/96 xiction Options (Lots 2 & 3)	FY 1996	4	FY 1997	4	FY 1998	8) r	-	FY 1999	4
- Follow-on QF-4 Production Options		· ×	× ×	×			· ×		-
(U) Target Payloads									
- RFP Release - Contract Award - Factory Testing - Ground Testing	×	*			×	××	××		
		Pa	Page 3 of 8 Pages			Exhib	it R-2 (PE	Exhibit R-2 (PE 0604258F)	

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RDT&E BUDGET IT	ITEM JUS	TIFICA	TION SI	HEET (F	EM JUSTIFICATION SHEET (R-2 Exhibit)	bit		DATE		100
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0604258F Targe	ਸਸ਼ਿਵ arget Sy	stems De	отпе Target Systems Development	1	PROJ	PROJECT 2459
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2459 Target Payload	3,924	4,762	4,780	4,818	5,179	5,252	5,382	5,512	- 1	TBD
Quantity of RDT&E Articles										
Specialized payload subsystems are developed for full-scale and subscale targets for missile scoring, electronic and infrared (IR) countermeasures, and radar and IR signature augmentation. Current scoring systems provide only miss distance information. An Interim Vector Scoring (IVS) system is being produced to provide missile path and position relative to the target at point of closest approach, this is essential to accurately calculate the probability of a kill. IR signature augmentation on subscale targets provides a signature representative of threat military jet engines. Electronic and IR countermeasures (ECM & IRCM) include systems such as chaff and flare dispensers, Drone Radar Cross Section (RCS) Electronic Enhancement Mechanism (DREEM) provides RCS enhancement of Subscale Aerial Targets to replicate full size threats, and is used for Developmental Test and Evaluation/Initial Operational Test and Evaluation of air-to-air missiles, air-to-air Weapons System Evaluation Program (WSEP). The acquisition strategy is competitive, cost plus contracts.	Justification ed for full-scale stems provide or et at point of cle mutative of threat ction (RCS) Ele velopmental Tes on strategy is co	and subsca nly miss dist sest approa in ilitary jet ctronic Enha st and Evalu mpetitive, c	le targets for tance inform this is essengines. El ancement Mation/Initial ost plus cont	missile scor ation. An Ir sential to acc ectronic and echanism (D Operational	ring, electror sterim Vecto surately calcs IR countern 'REEM') pro'	nic and infrair Scoring (IV) alate the prolineasures (EC) vides RCS et aluation of a	for full-scale and subscale targets for missile scoring, electronic and infrared (IR) countermeasures, and radar and IR ms provide only miss distance information. An Interim Vector Scoring (IVS) system is being produced to provide ut point of closest approach, this is essential to accurately calculate the probability of a kill. IR signature augmentation twive of threat military jet engines. Electronic and IR countermeasures (ECM & IRCM) include systems such as chaff on (RCS) Electronic Enhancement Mechanism (DREEM) provides RCS enhancement of Subscale Aerial Targets to opmental Test and Evaluation of air-to-air missiles, air-to-air Weapons System strategy is competitive, cost plus contracts.	ntermeasures s being prod kill. IR sign) include sys of Subscale siles, air-to-a	s, and radar a nuced to prov nature augme stems such a Aerial Targe	md IR ide ntation on s chaff ts to System
 (U) FY 1996 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$229 Gulf Range Drone Control Upgrade System (GRDCUS)/MQM-107E Simulation and Integration (U) \$1,265 Initiate Demonstration and Evaluation (DEMVAL) for DREEM, Contractor: Boeing, Defense Space Group - Seattle, Washington (U) \$1,265 Initiate Demonstration and Evaluation (DEMVAL) for DREEM, Contractor: Boeing, Defense Space Group - Seattle, Washington (U) \$236 GRDCUS/BQM-34 Heading Hold Integration (U) \$220 Target Reliance Technical Support (U) \$3,924 Total 	and Evaluation eading Hold Introcessor Vehicle ical Support scale Demonstration	ystem (GRD (DEMVAL) egration Interface/D	CUS)/MQM) for DREE! igital Autopi	4-107E Simı M, Contracte ilot (SPV/D⊅	ມlation and ໂາ or: Boeing, L AP) Combinະ	ntegration Jefense Spac ation, Contra	e Group - Sc ictor: Tracor	eattle, Washi - Austin, Te	ington .xas	
(U) FY 1997 (\$\\$\text{in Thousands}\): - (U) \$575 Initiate Follow-on Aerial Targets Study - (U) \$1,385 Continue DEMVAL for DREEM - (U) \$358 MQM-107E SPV/DAP Combination - (U) \$200 Targets Reliance Technical Support - (U) \$50 Continue Enhanced Subscale Demonstrations - (U) \$479 Integrated Pod Capabilities	ial Targets Studior DREEM Combination nical Support bscale Demons ities	y trations								
Project 2459			Page 4 of 8 Pages	8 Pages	į		Exhibit	Exhibit R-2 (PE 0604258E)	604258E)	

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RC	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
BUDGET ACTIVITY 6 - Management and Support	and Support	PE NUMBER AND TITLE 0604258F Target Systems Development	ļ	PROJЕСТ 2459
- (U) \$1,715 - (U) \$4,762	Other Technical Support Total			
(U) FY 1998 (\$ in Thousands): - (U) \$500 Continue - (U) \$2,500 Continue - (U) \$200 QF-4 Rish - (U) \$200 Target Re - (U) \$1,380 Other Tec - (U) \$4,780 Total	Thousands): Continue Follow-on Aerial Targets Study Continue DEMVAL for DREEM QF-4 Risk Reduction Study Recommendations Target Reliance Technical Support Other Technical Support			
(U) FY 1999 (\$ in Thousands): - (U) \$200 Next Gene - (U) \$200 QF-4 Risk - (U) \$200 Target Re - (U) \$1,500 Enhanced - (U) \$500 Common - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra - (U) \$500 Towed Ra	Thousands): Next Generation Aerial Target (NGAT) Target Control Support QF-4 Risk Reduction Study Recommendations Target Reliance Technical Support Enhanced ECM Common Flare/Chaff Dispenser Towed Radar Decoy On-board Video Other Technical Support Total	d Support		
Project 2459	Pas	Page 5 of 8 Pages	Exhibit R-2 (PE 0604258F)	

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RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	£	DATE Februa	February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604258F Targ	PE NUMBER AND TITLE 0604258F Target Systems Development	ems Devel	1	PROJECT 2459
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 4,171 4,171	FY 1997 4,966 4,966	FY 1998 5,223	FY 1999 5,367	Total <u>Cóst</u> Continuing	
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-82 -91 -24	-114				
 a. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/ FY 1998 PB 	-17 -33 3,924	-5 4,762	-443 4,780	-549	TBD	
 (U) Change Summary Explanation: Funding: Decrease in FY96 is due to the rescission to fund Bosnia and F-16s to Jordan. Decreases in FY98 and FY99 occurred during FY98 PB formulation to fund higher Air Force priorities 	fund Bosnia and F- ıg FY98 PB formul	·16s to Jordan. ation to fund high	ıer Air Force prio	rities		
Schedule: None						
Technical: None						
(U) C. Other Program Funding Summary (\$\frac{s}{in}\$ Thousands) Refer to Other Program Funding Summary, Page 2, Section C.	s) ection C.					
(U) D. <u>Schedule Profile</u> Refer to Schedule Profile, Page 2, Section D.	·					
Project 2459	Pa	Page 6 of 8 Pages			Exhibit R-2 (PE 0604258F)	8F)
		1150				

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit		DATE	7007	700
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0604258F Targe	ре NUMBER AND TITLE 0604258F Target Systems Development	stems De	evelopme		in in in in in in in in in in in in in i	PROJECT 3165
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3165 QF-4 Development	1,125	0	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles										
(U) A. Mission Description and Budget Item Justification The Air Force is lead for a tri-service program for the development of the QF-4E Full Scale Acrial Target (FSAT). The QF-4E is the follow-on to the QF-106 FSAT used today. The finat buy of the QF-106 was in FY93 with deliveries complete in 4QtrFY94. The first QF4 production was delivered in 3Qtr FY96 and sit funded by PE 35116 ff protuvement. Addition production options are subsoluted to begin delivery in 3Qtr 97 and 3Qtr 97 section and a production was delivered in 3Qtr FY93 with deliveries complete in 4QtrFY94. The first QF4 production was delivered in 3Qtr FY95 and is funded by PE 35116 ff protuvement. Addition produced option and the Wiltie Sands Missile Range. NM to meet over-hald test requirement. The Navy will begin using the QF-4E in FY03. Full-scale targets are representative of the threat, with realistic maneuvering performance, radar cross section and afterbuning ongine infrared (IN Sylamtur. The overall odylective is to improve air-to-air weapon systems cust and evaluation. Public law mandates all new or upgraded weapon systems must demonstrate lentality against a representative threat before approval to proceed with procurement. In addition to AMRAAM, AIM-7, AIM-9X, and F-22, full-scale targets are also used to support US Army air defense test and evaluation programs such as the Divisional Air Defense follow-on program; Singer, Parical and Improved Hawk. (U) FY 1996 (8 in Thousands): - Complete White Sands Missile Range Testing, Not Separately Priced (NSP) - Complete White Sands Missile Range Testing, Not Separately Priced (NSP) - Conduct QF-4 FSAT Physical Configuration Audit (NSP) - Receive First Production QF-4 FSAT Target (NSP) - Receive First Production QF-4 FSAT Target (NSP) - Receive First Production QF-4 FSAT Target (NSP) - (U) \$2.28 Other Technical Support - (U) \$5.125 Total - (U) \$8.7 Total	Instification In for the development of the QF-4E Full Scale Aerial Target (FSAT). The QF-4E is the follow-on to the QF-106 FSAT In for the development of the QF-4E Full Scale Aerial Target (FSAT). The QF-4E is the follow-on to the QF-106 FSAT In FY93 with deliveries complete in AQtrF94. The first QF-4 production was delivered in 3Qtr FY96 and is funded by tion options are scheduled to begin delivery in 3Qtr97 and 3Qtr98 respectively. The QF-4 FSAT will be operated at uirement, and then (4Qtr97) operated at the White Sands Missile Range, NM to meet over-land test requirement. The 'ull-scale targets are representative of the threat, with realistic maneuvering performance, radar cross section and The overall objective is to improve air-to-air weapon systems must demonstrate lethality against a representative threat in the overall objective is to improve air-to-air weapon systems must demonstrate lethality against a representative threat in addition to AMRAAM, AIM-7, AIM-9X, and F-22, full-scale targets are also used to support US Army air defense isional Air Defense follow-on program, Stinger, Patriot and Improved Hawk. Physical Configuration Audit (NSP) ations Training (NSP) In Level III Drawing Package (NSP) Option 2 (NSP) to Option 2 (NSP) to Option 2 (NSP) to Option 2 (NSP)	lopment of t deliveries c e scheduled then (4Qtr9' is are repres jective is to w mandates o AMRAAN ense follow m, Contract ge Testing, I s(NSP) iguration Av wing Packa,	he QF-4E Fr. omplete in 4 to begin deli in 7) operated a centative of th improve airal new or up 4, AIM-7, A con program, or: Tracor Not Separate udit (NSP) ge (NSP)	all Scale Aer (QtrFY94. T ivery in 3Qtr tr the White? he threat, with the decorate weapongraded weapongraded weapongraded weapongraded weapongraded weapongraded weapongraded weapongrades. Stinger, Parised (N Stinger, Parised (rial Target (F The first QF- Sands Missil th realistic m yn system ac ynon systems F-22, full-sc triot and Imp as (SP)	SAT). The 14 production 98 respective e Range, Nivaneuvering 1 curacy and range famor rale targets and proved Hawk	QF-4E is the was deliver ely. The QF A to meet ov performance eliability by astrate lethal re also used to	ed in 3Qtr F -4 FSAT wil er-land test 1 2, radar cross developing ity against a to support U	to the QF-10 Y96 and is tall be operate requirement is section and aerial target is representation. JS Army air	6 FSAT unded by dat dat The systems ve threat defense
Project 3165			Page 7 of 8 Pages	8 Pages			Exhibi	Exhibit R-2 (PE 0604258F))604258F)	
			1101							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATION SHI	EET (R-	2 Exhibi	t)	DATE	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUM 0604	PE NUMBER AND TITLE 0604258F Targe	TLE Irget Syst	PE NUMBER AND TITLE 0604258F Target Systems Development		PROJECT 3165
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 Total						
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$0 Total						
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 FY 1997 1,191 0 1,191		FY 1998 0	FY 1999 0	Total <u>Cost</u> TBD	
a. Cong Reductions	-23					
v Threshold Reprogramming	-31 -12					
(U) Current Budget Submit/ FY 1998 PB	1,125					
(U) Change Summary Explanation: Funding: FY96 Reduced to reflect revised inflation and	inflation and rescission for Bosnia.					
Schedule: None						
Technical: None						
(U) C. Other Program Funding Summary (\$ in Thousands) Refer to Other Program Funding Summary, Page 2, Section C.	l tion C.					
(U) D. <u>Schedule Profile</u> Refer to Schedule Profile, Page 2, Section D.						
Project 3165	Page 8 of 8 Pages	Pages		Ä	Exhibit R-2 (PE 0604258F)	258F)

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PE NUMBER: 0604759F

UNCLASSIFIED

PE TITLE: Major Test And Evaluation Investment

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	R-2 Exhi	bit)		DATE Fel	February 1997	262
BUDGET ACTIVITY 6 - Management and Support			PE NI 0 60	PE NUMBER AND TITLE 0604759F Major	ттте fajor Tes	t And Ev	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	Investme	int	
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	38,446	32,340	47,336	43,809	50,255	59,829	53,018	49,839	Continuing	TBD
4597 (U) Air Force Test Investments	0	0	47,336	43,809	50,255	59,829	53,018	49,839	Continuing	TBD
3120 Air Force Development Test Center	10,546	9,206	0	0	0	0	0	0	Continuing	TBD
3285 Arnold Engineering Development Center	5,368	5,625	0	0	0	0	0	0	Continuing	TBD
3620 Air Force Flight Test Center	19,622	17,509	0	0	0	0	0	0	Continuing	TBD
2904 Holloman Hypersonic Sled Trak	2,910	0	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

acquisition/facility construction, equipment installation, and checkout phases which often requires significant differences in funding from one year to the next. As such, the system technologies. Test investment activities are also funded at the Space and Missile Systems Center Test Directorate (SMC/TE) and the Joint Program Office (JPO) for T&E investments are consolidated in this project to properly reflect that Air Force investments are determined at the component and DoD level. Prior to FY98 investments This program element provides planning, improvements, and modernization for test capabilities at three Air Force Test Centers: Arnold Engineering Development Center I&E. The fluctuations in the funding at these locations are due to changing priorities in the improvement and modernization requirements as defined through the AF Test (AEDC), Air Force Development Test Center (AFDTC), and Air Force Flight Test Center (AFFTC). The purpose is to help test centers keep pace with emerging weapon Investment Planning & Programming. Also, all projects have been reviewed through the Tri-Service Reliance effort (to communicate AF efforts to the other services and maintained by the Air Force for DoD test and evaluation missions, but they are available to others having a requirement for their unique capabilities. Beginning in FY98, capabilities at these centers enable testing through all phases of weapon system acquisition from system concept exploration through component and full scale integrated weapon system testing to operational testing. These three test centers have over \$10B worth of unique test facilities/capabilities. They are a national asset operated and avoid unwarranted duplication of effort) and are documented in the Test Capability Master Plans. Further, each project has its own planning, development, equipment changes in funding from year to year do not necessarily indicate program growth but rather a planned phasing of improvement and modernization efforts. The test were reflected by test center and led to misperceptions that investment planning was geographically determined.

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Exhibit R-2 (PE 0604759F)

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RDT&E BUDGET ITEM JUSTI	FICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	oit)		DATE Feb i	February 1997	
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	oπ⊓∟E Major Test	And Eva	luation	Investmer	<u></u>	
(U) B. Program Change Summary (S in Thousands)								
(U) Previous President's Budget (U) Appropriated Value	FY 1996 38,446	FY 1997 33,529 33,529	FY 1998 39,472	FY 1999 39,580	ଷ୍ଟାର	Total Cost		
(c) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram		-735 -454						
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB	38,446	32,340	7,864	4,229 43,809	66	Cont		
(U) Change Summary Explanation: Funding: FY98/99 increases reflect an Air Force initiative t year effort.	to upgrade th	Force initiative to upgrade the severely deteriorated AEDC Propulsion Wind Tunnel complex. This initiative is a multi-	ıted AEDC Pro	pulsion Win	id Tunnel co	mplex. This	initiative is a	multi-
Schedule: None.								
Technical: None.								
(U) C. Other Program Funding Summary (\$ in Thousands)								
FY 1996	FY 1997 F	FY 1998 FY 1999	9 FY 2000	FY 2001	FY 2002	FY 2003	To	Total Cost
Budget Activity: <u>Defense-Wide Mission Support</u> , Program Title: <u>Fighter Inlet Flow</u>		8,690						8,690
Related RDT&E: (U) PE 0604940D, Central Test & Evaluation Improvement Program (U) PE 0604256F, Threat Simulator Development (U) PE 0604735F, Combat Training Ranges	u							
	Pa	Page 2 of 19 Pages			Exhib	Exhibit R-2 (PE 0604759F)	04759F)	
		1154						

1154

RDT&E BUDGET ITEM JUSTIFICAT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PENUMBER AND TITLE 0604759F Major Test And Evaluation Investment	Investment
(U) D. Schedule Profile		
$\frac{\text{FY } 1996}{1 2 3} 4$ (U)	1 2 3 4 1 2 3 4	FY 1999 1 2 3 4
	Dana 2 of 10 Danas	Evhikii B.2 (DE 0804750E)
		10011000 1172110

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RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	HEET (R	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	260
BUDGET ACTIVITY 6 - Management and Support			PE NI 000	PE NUMBER AND TITLE 0604759F Major	ппе lajor Test	t And Eva	E NUMBER AND TITLE 3604759F Major Test And Evaluation Investment	nvestme		РРОЈЕСТ 4597
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4597 (U) Air Force Test Investments	0	0	47,336	43,809	50,255	59,829	53,018	49,839	Continuing	ТВО

commonality. GPS Range Systems will provide a major improvement for Time-Space-Position-Information (TSPI) at all MRTFBs and specifically at the Eglin Ranges for add needed networks and hardware to develop a C1 test bed. The Preflight Integration of Munitions and Electronic Systems (PRIMES) facility conducts preflight test and capabilities supports the military construction upgrade, extending its useful life to 2015. Mission Control/Data Analysis provides for real-time central mission control and munitions testing. Command, Control, Communications, Computers and Intelligence (C1) Test Capabilities Upgrade will provide connectivity to existing capabilities and incorporating multispectral stimulations. These projects ensure test center technology is compatible with weapon systems to be tested such as AMRAAM, JDAM, AGMand determines target/test item electronic signatures. The Guided Weapon Evaluation Facility (GWEF) provides a full spectrum, multifunctional seeker/sensor laboratory test capability for all guided weapons. Common Airborne Instrumentation System (CAIS) Integration provides standardized airborne test to enhance interoperability and operational test and evaluation of non-nuclear air armaments, C4 systems, and target acquisition and weapon delivery systems; provides a climatic simulation capability; analysis. Multispectral Missile Engagement Hardware-in-the-Loop (HITL) Test provides a capability to support multiple and wide field-of-view missile engagements (U) A. Mission Description and Budget Item Justification The AFDTC, located at Eglin AFB, FL, conducts and supports developmental test and evaluation and instrumentation of the major data collection systems supporting open air testing. The Climatic Test Facility modernization of instrumentation and environmental evaluation of total integrated weapon systems in a secure anechoic chamber. The Armament Systems Test Environment (ASTE) Range Systems effort upgrades 130, ASRAAM, JTIDS, JSTARS, Combat Talon, etc.

scale models such as space boosters together with their propulsion systems. The AEDC Data Acquisition and Processing System (DAPS) provides processing capability for Tunnel (PWT) Sustainment project sustains long-term operation of tunnels 16T and 16S to meet transonic/supersonic test needs. The Improve Turbine Engine Structural Integrity project will provide new state-of-the-art structural test monitoring and data analysis systems to support turbine engine structural tests to detect and analyze high sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; and testing of large-Modernization Project (CMP) will provide increased capability for data processing and storage and provide wider availability of workstations. The Propulsion Wind advanced turbine engine testing on programs like the F-22. This effort also upgrades data systems for the arc heaters and hypervelocity gun facility for Theater High programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space systems; testing of large and full-scale satellites, Arnold Engineering Development Center (AEDC), Arnold AFB, TN, provides ground environmental test support for DoD aeronautical, missile, and space Altitude Air Defense (THAAD) testing. Inefficiencies in these current data systems result in increased program costs and schedule delays. The Computer Aided cycle fatigue.

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Project 4597

Exhibit R-2 (PE 0604759F)

RDT&E BUDGET ITEM JUSTIFICAT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	rebruary 1997
The AFFTC, located at Edwards AFB, conducts and supports developmental test and evaluation and operational test and evaluation of aircraft and aircraft systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachutes delivery/recovery systems, and cargo-handling systems. The AF Common Airbonne Instrumentation System (CAIS) Integration & Support (CAIS I&S) supports DoD objectives for interoperability/commonality. The goal of CAIS I&S is to integrate CAIS Processing Systems (ADAPS) project provides an integrated capability to satisfy real-time first generation post-test data processing, archival, and display requirements of the next decade. The developmental approach is directed towards providing a high degree of interoperability between systems and components by adherence to Air Force and DoD guidelines. The technologies being developed under ADAPS have the potential to satisfy data processing and display needs at various multi-service test ranges. The Space Based Data Relay (SBDR) project provides the capability for ARIA to fulfill customer needs for real time, high-speed data, and greatly improve the overall range the loop simulator requirements. The Space Based Data Relay (SBDR) project provides the capability for ARIA to fulfill customer needs for real time, high-speed data, and greatly improve the overall range the loop simulator requirements. The Space and Missile Systems Center's Test Directorate (SMC/TE) is located at Kirtland AFB, NM and is responsible for test planning and implementation for all space and ballistic missile systems. The Combined Space Test Task Force project will provide the capability to develop and test new satellites and ground control systems. Beginning in FY98, T&E investments are consolidated in this project to properly reflect that Air Force investments are determined at the component and led to misperceptions that investment planning was geographically determined.	nducts and supports developmental test and evaluation and operational test and evaluation of aircraft and aircraft systems, vehicles, cruise missiles, parachutes delivery/recovery systems, and cargo-handling systems. The AF Common Airborne port (CAIS I&S) supports DoD objectives for interoperability/commonality. The goal of CAIS I&S is to integrate CAIS tent and systems to provide a full airborne instrumentation operational capability. The Advanced Data Acquisition and integrated capability to satisfy real-time first generation post-test data processing, archival, and display requirements of lirected towards providing a high degree of interoperability between systems and components by adherence to Air Force eloped under ADAPS have the potential to satisfy data processing and display needs at various multi-service test ranges, rides the capability for ARIA to fulfill customer needs for real time, high-speed data, and greatly improve the overall range rest Directorate (SMC/TE) is located at Kirtland AFB, NM and is responsible for test planning and implementation for all d Space Test Task Force project will provide the capability to develop and test new satellites and ground control systems. consolidated in this project to properly reflect that Air Force investments are determined at the component and DoD level. neter and led to misperceptions that investment planning was geographically determined.	on of aircraft and aircraft systems, ems. The AF Common Airborne of CAIS L&S is to integrate CAIS dvanced Data Acquisition and 'al, and display requirements of nents by adherence to Air Force arious multi-service test ranges. I greatly improve the overall range) facility to meet future man-inaming and implementation for all lites and ground control systems.
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$ Not applicable.		
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$ Not applicable.		
(U) FY 1998 (\$\frac{\pi}{\pi}\$ in Thousands): Air Force Development Test Center - (U) \$5,324 Continue CAIS integration, procure CAIS production - (U) \$2,650 C ⁴ I Test Capabilities Upgrade. Complete the acquisis and begin acquisition of interconnectivity software. - (U) \$3,707 GWEF will complete the expanded radar simulator a continue GPS integration on the range and Central C (U) \$1,123 Continue GPS integration on the range and Central C (U) \$1,850 PRIMES will acquire a Communication-Navigation-angle of arrival capability. - (U) \$1,375 ASTE Range Systems. Begin upgrades to TSPI syste fiber optics. Arnold Engineering Development Center	Air Force Development Test Center Continue CAIS integration, procure CAIS production units, and continue procurement of support equipment. Cantinue CAIS integration, procure CAIS production units, and continue procurement of support equipment. Cal Test Capabilities Upgrade. Complete the acquisition of workstations, continue procurement of network connections and hardware/software, and begin acquisition of interconnectivity software. GWEF will complete the expanded radar simulator and begin development of a multispectral man-in-the-loop capacity. Continue GPS integration on the range and Central Control Facility. Begin acquisition of a translator/processor system. PRIMES will acquire a Communication-Navigation-Identification (CNI) simulator. Begin development of a reactive munitions loop and phased angle of arrival capability. ASTE Range Systems. Begin upgrades to TSPI systems, timing, telemetry, microwave, communications, arenas, gun test, photo-optics, and fiber optics. Arnold Engineering Development Center Page 5 of 19 Pages	nent. ork connections and hardware/software, -loop capacity. ocessor system. of a reactive munitions loop and phased s, arenas, gun test, photo-optics, and
		N-2 (PE 0004/39F)

		RDT&E BUDGET ITEM J	FEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
80DC	BUDGET ACTIVITY 6 - Manageme	BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	PROJECT PROJECT 4597
	- (U) \$3,140		Continue AEDC DAPS with acquisition and installation of additional workstation/processors in engine test cells and Aerodynamic and	e test cells and Aerodynamic and
	- (U) \$2,03		of T/J cells portion of DAPS. ations (fourth increment).	•
	- (U) \$8,270	Begin PWT Sustainment	projects. Begin design and procurement of PWT data acquisition and processing systems. Start requirements planning	sing systems. Start requirements planning
	ı	101 now quanty and electric motor repower improvements. Air Force Flight Test Center	repower improvements.	
	- (U) \$6,535		Purchase CAIS components for AFFTC use. Continue TIMS development with automated setup of systems,	with automated setup of systems,
	- (U) \$4,824		board processing capability. ARIA Space Based Data Relay. Complete the communications nortion of the SBDB process.	ace unit. Begin development of an on-
	(11) \$6 173		to the second of	iue software integration of the SBDR
			Containe integration of ADAPS with ground test simulation capabilities. Begin developing capabilities to support multiple flight test missions including Tri-Service Operational flight tests. Develop capability to increase test data flow throughput and decrease flight test mission	as to support multiple flight test missions t and decrease flight test mission
		turnaround time. Begin integratio Other Projects	integration of test planning requirements with the ADAPS system setup capability.	oility.
	- (U) \$335 - (U) \$47,336	Continue Joint Program	Office T&E support activities.	
	(U) <u>FY 1999</u> (Ţ		
			ter	
	- (U) \$2,970 - (II) \$1 939		Continue CAIS integration, procure CAIS production units, and continue procurement of support equipment	pment
			of the expansion of grade. Complete the network connections and continue the acquisition of interconnectivity software and equipment for a classified C4 test capability.	rconnectivity software and equipment for
	- (U) \$3,184		GWEF will continue the multispectral man-in-the-loop effort and begin development of an active laser simulator.	simulator.
	- (U) \$2,402 - (U) \$1,990		Continue GPS integration and complete the acquisition of translator/processor system. PRIMES will continue development of the reactive minitions long complete the wheeld and a complete the reactive minitions long complete the wheeld and to be completed.	
			and the second s	and oegan acquisition of chamber free
•	- (U) \$2,189		ASTE Kange Systems will continue upgrades to TSPI systems, timing, telemetry microwave, communications, arenas, gun test, and photo- ontics	ications, arenas, gun test, and photo-
•	- (U) \$1,174		Mission Control/Data Analysis will begin procurement of data acquisition equipment and real-time TM equipment.	f equipment.
	- (U) 3 2,400		In the Multispectral Missile Engagement HITL Test Capacity will begin acquisition of a target generator and development of target and clutter models.	and development of target and clutter
•	- (U) \$797	Begin Climatic Test Facility upgrade. Arnold Engineering Development Center	ie. I Center	
Proje	Project 4597		Page 6 of 19 Pages	Exhibit R-2 (PE 0604759F)

			RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE ESPENSES 400.	
BUDGET ACTIVITY	ACTIV	l.		PE NUMBER AND TITLE	repruary 1997	
9 - W	anag(ement	6 - Management and Support	0604759F Major Test And Evaluation Investment	ion Investment	PROJECT 4597
1 1	<u></u>	(U) \$1,106 (U) \$2,040	AEDC DAPS. Complete installation of JS/J6 rocket test cell DAPS. FOC of C/T/J cells portion of DAPS. Continue mirchage of CMP workerstions (fight incomes).	est cell DAPS. FOC of C/T/J cells portion of DAPS.		
ı	3	(U) \$4,599	PWT Sustainment. Continue installation of data acquisition and processing system in 16T and 16S. Continue installation of 16T/16S pre-feet	enty. sition and processing system in 16T and 16S. Contin	nue installation of 16T/16S pre-	fect
ı	9	(U) \$2,016	checkout system. Begin design of plant control systems. Continue planning for flow quality and electric motor repower improvements Improve Turbine Engine Structural Integrity. Integrate requirements for all enabling hardware/software technologies. Continue design of	as. Continue planning for flow quality and electric n e requirements for all enabling hardware/software tec	notor repower improvements	5
			aeromechanical test hardware and data analysis techniques. Air Force Flight Test Center	ques.		
l	9	(U) \$4,480	CAIS 1&S development. Continue TIMS development with automated setup of systems, automated diagnostics, and simulation capability.	t with automated setup of systems, automated diagno	ostics, and simulation capability.	
	į	;	commuse accompanient of a CALS optical bus interface unit. Continue development of an on-board processing capability. Begin development of an advanced solid state recorder.	unit. Continue development of an on-board process	ing capability. Begin developm	ent of
1 1	<u> </u>	(U) \$1,493 (U) \$5,638	ARIA Space Based Data Relay. Continue software integration of the SBDR subsystems upgrades. ADAPS. Continue to integrate simulation system with real-time data analysis constitution.	egration of the SBDR subsystems upgrades.		
****			capability in near real-time in the Ridley Mission Control Rooms. Rehost the ground based data processing capabilities airborne data processing	rol Rooms. Rehost the ground based data processing	nde the traditional post-test analy 3 capabilities airborne data proce	ysis :ssing
1	(C)	(U) \$1,000	System: 1107 for a graduation and processing in near real-time in the Ridley Mission Control Rooms. Flight Simulation Modernization. Begin the upgrade of the TEMS facility to meet fithing man-in-the-loon simulator requirements for account.	time in the Kidley Mission Control Rooms. If the TEMS facility to meet future man-in-the-loon s	imilator requirements for secon	
			such as the Joint Strike Fighter (JSF). Procure hardware to support the development of a reconfigurable Air Warfare Mission Simulator (AWMS) cocknit simulator	re to support the development of a reconfigurable A.	ir Warfare Mission Simulator	allis
I	(U) \$238	3238	Begin ARIA record and timing system upgrade.			
I	5	9623	Begin linked interactive T&E networking. Other Projects			
1	(E)	\$358	Continue Joint Project Office T&E support activities			
1	\$ (D)	\$1,000	Combined Space Test Task Force. Begin development of an accurate US space resource database along with space resource models. Begin	of an accurate US space resource database along wit	th snace resource models. Begin	
1	\$ (D)	(U) \$43,809	procurement of necessary hardware and software to support database models. Total	port database models.	en space resource mousis. Degn	<u>.</u>
Project 4597	597		Page	Page 7 of 19 Pages	Exhibit R-2 (PE 0604759E)	
					111011 N-4 IF E 0004139F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhib	Œ	DATE	1007
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604759F Major	ווזרב lajor Test	ртпе Маjor Test And Evaluation Investment	rebruary 1997 PRO: Investment 459	у 1997 РВОЈЕСТ 4597
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	FY 1997	FY 1998 39,472	<u>FY 1999</u> 39,580	Total Cost	
b. SBIK c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB		7,864	4,229 43,809	Cont	
(U) Change Summary Explanation: Funding: FY98/99 increases reflect an Air Force initiative to upgrade the severely deteriorated AEDC Propulsion Wind Tunnel complex. This initiative is a multi-year effort.	everely deteriorate	d AEDC Propi	ulsion Wind Tunnel o	complex. This initiati	ive is a multi-
Schedule: None.					
Technical: None.					
(U) C. Other Program Funding Summary (S in Thousands)					
(U)	FY 1998 FY 1999	FY 2000 E	FY 2001 FY 2002	FY 2003 Con	To Total
(U) D. Schedule Profile					
(U) $\frac{\Gamma \Upsilon 1996}{1}$ 4 1	FY 1997 2 3	4	FY 1998 2 3 4	FY 1999 1 2 3	3 4
Project 4597	Page 8 of 19 Pages		Exhib	Exhibit R-2 (PE 0604759F)	F)
	1160				

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	260
BUDGET ACTIVITY 6 - Management and Support			PE NI	PE NUMBER AND TITLE 0604759F Major	D ПТЕ Major Test And Evaluation Investment	t And Ev	aluation	Investme		PROJECT 3120
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3120 Air Force Development Test Center	10,546	9,206	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles										
sion Description and Budget Item sest and evaluation of non-nuclear air nes target/test item electronic signatury for all guided weapons. Common G. GPS Range Systems will provide a sting. Command, Control, Communitetworks and hardware to develop a UDAM, AGM-130, ASRAAM, JTID 1996 (\$ in Thousands): \$5,441 CAIS integration procupod development and pod development a	stification: maments, C ⁴ The Guide- rborne Instru agior improvi ions, Compu test bed. Th JSTARS, Co d interim CA curement of re and hardw with acquisi generator pro- ontinued data	The AFDTC I systems, ar d Weapon, E mentation S ement for Ti ters and Inte ese projects mbat Talon, IS productic video camer are to provic tion of softw ject, adding link acquisi	, located at da farget acq valuation Fa valuation Fa valuation Fa valuation Fa me-Space-Piligence (C4 lingence (C4 as, recorders as, recorders as, recorders farget/backg tion and inte	Eglin AFB, Fuisition and vicility (GWE) Mistion and vicility (GWE) Integration osition-Information frowide comms and time coetargets for laware to provide and scenes regration of Regratio	FL, conducts weapon delt in provides st mation (TSF) bilities Upgraliges Upgraliges Upgrand de generaton hardware-in vide expandes required to AJPO equipn	a full suppor very system; a full spectrical sundardized sull propatible with partible with the-loop (He-loop (He-loop (He) conduct HT ment to fully ment to fully the loop in the fully ment to fully ment to fully ment to fully the loop is a full to fully the loop is a full to fully the loop is a full to fully the loop is a full to fully the loop is a full to fully the loop is a full to fully the loop is a full to fully the loop is a full to full the loop is a full to full the loop is a full to full the loop is a full to full the loop is a full to full the loop is a full the lo	s; provides a am, multifun airborne test airborne test iTFBs and sprovide connect weapon syst implement implement implement implement	ental test an climatic sir climatic sir climatic sir ctional seek to enhance loc cifically at tivity to existems to be te capabilities forg-wave GPS archite	Justification: The AFDTC, located at Eglin AFB, FL, conducts and supports developmental test and evaluation and armamenta, Cff systems, and target acquisition and weapon delivery systems; provides a climatic simulation capability; armamentation Facility (GWEF) provides a full spectrum, multifunctional seeker/sensor laboratory Airborne Instrumentation Systems (CAIS) Integration provides standardized airbornet test to enhance interoperability and a major improvement for Time-Space-Position-Information (TSP) at all MRITBs and specifically at the Eglin Ranges ff cations, Computers and Intelligence (C41) Test Capabilities Upgrade will provide connectivity to existing capabilities and Cf test bed. These projects ensure test center technology is compatible with weapon systems to be tested such as G, ISTARS, Combat Talon, etc. Cf test bed. These projects ensure test center technology is compatible with weapon systems to be tested such as G, ISTARS, combat Talon, etc. S, ISTARS, Combat Talon, etc. Ct test bed. These projects ensure and time code generators. Socious and the structure of video canneras, recorders and time code generators. The structure of video canneras, recorders and time code generators. The structure of video canneras, recorders and time code expanded RFMAMW simulation capabilities in the GWEF. The generator project, adding target/background scenes required to conduct HITL testing of long-wave guided weapons, continued data link acquisition and integration of RAJPO equipment to fully implement GPS architecture on Eglin Test continued gata link acquisition and integration of RAJPO equipment to fully implement GPS architecture on Eglin Test and provide multiple of the structure of RAJPO equipment of the graph of the structure of Eglin Test and the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the structure of the	and bility; oratory tty and niges for ites and n an f. ons. in Test
Project 3120		#	Page 9 of 19 Pages	9 Pages			Exhibit	Exhibit R-2 (PE 0604759F)	604759F)	

RDT&E BUDGET ITEM JUST	EM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibi	Œ.	DATE February 1997	y 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604759F Majo	О ТІТ∟Е Major Test ⊿	And Evaluati	DENUMBER AND TITLE OG04759F Major Test And Evaluation Investment	9ROJEСТ 3120
 (U) \$Y.1997 (\$\frac{\psi}{8}\$ in Thousands). (U) \$2,367 Continue CAIS integration, procure CAIS production units, and continue procurement of support equipment for bench, laboratory, and preflight. (U) \$1,747 C⁴I Test Capabilities Upgrade. Begin procurement of workstations, network connections, and hardware/software for a classified C⁴I test capability. (U) \$3,081 GWEF will complete the multimode project and continue the expanded radar simulator. (U) \$2,011 Continue procurement of GPS instrumentation for surface and airborne TSPI. (U) \$9,206 Total 	JS production un rocurement of wo oject and continu nitation for surfac	its, and continue orkstations, netw e the expanded r	ork connections of adar simulator.	support equipme, and hardware/so	nt for bench, laboratory, ftware for a classified C	and preflight.
(U) FY 1998 (\$ in Thousands): — (U) Not applicable.						
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) Not applicable.						
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 10,546	FY 1997 9,405 9,405	FY 1998	FY 1999	Total <u>Cost</u>	
(U) Adjustments to Appropriated Valuea. Cong Reductionsb. SBIR		-199				
 c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB 	10,546	9,206				
(U) Change Summary Explanation: Funding: None. Schedule: None. Technical: None.						
(U) C. Other Program Funding Summary (\$ in Thousands)						
Project 3120	Page	Page 10 of 19 Pages		Ш	Exhibit R-2 (PE 0604759F)	9F)
		1162				

RDT&E BUDGET I	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R	-2 Exhibi	t	DATE Feb	February 1997	
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604759F Major	ा⊓∟E lajor Test /	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	n Investme		РРОЈЕСТ 3120
(n)	FY 1996 FY 1997	FY 1998 FY 1999	FY 2000	FY 2001 FY 2002	2 FY 2003	To Compl	Total Cost
(U) D. <u>Schedule Profile</u> (U)	$\frac{\text{FY 1996}}{2}$ 4	$\frac{\text{FY } 1997}{2}$	4 L	FY 1998 2 3 4	_	FY 1999 2 3	4
Project 3120		Page 11 of 19 Pages			Exhibit R-2 (PE 0604759F)	304759F)	

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE Fe	February 1997	397
BUDGET ACTIVITY 6 - Management and Support			PE NI 0 6 0	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	πι∟Ε Iajor Test	t And Ev	aluation	Investme		РРОЈЕСТ 3285
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3285 Arnold Engineering Development Center	5,368	5,625	0	0	0	0	0	0	Continuing	TBD
Quantity of RDT&E Articles										
environmental test support for DoD aeronautical, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, missile, and space systems; testing of large and full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for aircraft, missile, and spacecraft propulsion systems; and testing of large-scale models such as space boosters together with their propulsion systems. The AEDC Data Acquisition and Processing System (DAPS) provides processing capability for advanced turbine engine testing on programs like the F-22. This effort also upgrades data systems for the arc heaters and hypervelocity gun facility for Theater High Altitude Air Defense (THAAD) testing. Inefficiencies in these current data systems result in increased program costs and schedule delays. The Computer Aided Modernization Project (CMP) will provide increased capability for data processing and storage and provide wider availability of workstations. The Fighter Engine Test Capability will upgrade turbine engine test cells to accommodate higher thrust engines, and upgrade J-2 test cell with Exhaust Gas Management System for axisymmetric vectored exhaust nozzles.	get Item Justification Amold Engineering Development Center (AEDC), Amold AFB, TN, provides ground I, missile, and space programs. The center has 53 test facilities providing: aerodynamic testing of scale model aircraft, full-scale satellites, sensors, and space vehicles in a simulated space environment; altitude environmental testing for air testing of large-scale models such as space boosters together with their propulsion systems. The AEDC Data Acquisitising capability for advanced turbine engine testing on programs like the F-22. This effort also upgrades data systems is eater High Altitude Air Defense (THAAD) testing. Inefficiencies in these current data systems result in increased profine modernization Project (CMP) will provide increased capability for data processing and storage and provide wider a Test Capability will upgrade turbine engine test cells to accommodate higher thrust engines, and upgrade J-2 test cell stric vectored exhaust nozzles.	cation Armace program ace program es, sensors, escale models, or advanced ude Air Defe Project (CM Project (CM Project (CM Project Air Defe haust nozzlee	old Engineer s. The cent and space ve such as spa- turbine engi nnse (THAA IP) will prov e turbine eng	ring Develop er has 53 test shicles in a si ce boosters to ine testing on D) testing. I vide increased gine test cells.	ment Center t facilities pri imulated spac ogether with 1 programs li inefficiencies d capability f s to accomm	(AEDC), A oviding: aer ce environm their propul ke the F-22. in these cun for data procodate higher	mold AFB, odynamic te ent; altitude lsion system. This effort rrent data sy essing and strust enging the forms of the form	TN, provide sting of scal environments. The AED also upgrad stems result storage and pnes, and upg	s ground le model airc ttal testing fo CC Data Acq les data syste in increased in increased provide wide	
 (U) \$3,693 Began installation of the Aeropropulsion System Test Facility (ASTF) portion of the Data Acquisition and Processing System (DAPS). (U) \$3,693 Began installation of the Aeropropulsion System Test Facility (ASTF) portion of the Data Acquisition and Processing System (DAPS). (D) \$1,675 Completed For Trenton cells. (E) \$1,675 Completed For Completed For CAM/CAD/CAE functions are accomplished internally and also with external customers. (D) \$5,368 Total 	the Aeropropuls d procure system Trenton cells. ase I of CMP (r	ion System 1 cquipment eplacement c CAM/CAD/	Test Facility for the engii sf current sy. CAE function	(ASTF) por ne test cells a stem) and pu ons are accor	rtion of the L and complete rchase Phase mplished inte	Data Acquisi upgrades to II workstat ernally and a	tion and Pro all data and tions. (secontiso with ext	ocessing Syst alysis areas. Id increment	tem (DAPS), Completed o). Completed ners.	lata
 (U) FY 1997 (\$\frac{\kappa}{\text{in Thousands}}\$: (U) \$3,714 Continue AEDC DAPS with acquisition and installation of additional work stations/processors in the engine test cells. IOC ASTF and J4 rocket test cell portions of DAPS. (U) \$1,336 Continue purchase of Phase II CMP workstations (third increment). Continue training of personnel. (U) \$575 Complete fighter engine test capability upgrade. (U) \$5,625 Total 	os with acquisiti APS. Phase II CMP vine test capabilit	on and instal vorkstations y upgrade.	llation of ad (third incre	ditional work ment). Contii	k stations/prc nue training	ocessors in the of personnel	he engine te: 1.	st cells. 1OC	ASTF and	J4 rocket

Page 12 of 19 Pages 1164

Project 3285

Exhibit R-2 (PE 0604759F)

RDT&E BUDGET ITEM JUS	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE February 1997	y 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604759F Major	отіть Major Test	PENUMBER AND TITLE OG AND EVAIUATION Investment	n Investment	РРОЈЕСТ 3285
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) Not applicable.						
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) Not applicable.						
(U) B. Program Change Summary (S in Thousands)						
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Com Reductions 	<u>FY 1996</u> 5,368	FY 1997 5,745 5,745	FY 1998	FY 1999	Total <u>Cost</u>	
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998PB	5,368	5,625				
(U) Change Summary Explanation: Funding: None.						
Schedule: None.						
Technical: None.						
Project 3285	Pag	Page 13 of 19 Pages		ĒX	Exhibit R-2 (PE 0604759F)	9F)
		* / / /				

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RDT&E BUDGET ITE	SUL M	TIFICAT	IS NO!	IEET (R	EM JUSTIFICATION SHEET (R-2 Exhibit)	oit)		DATE Feb	February 1997	7(
BUDGET ACTIVITY 6 - Management and Support			PE NU 060	PE NUMBER AND TITLE 0604759F Majo	ιτιε lajor Test	And Ev	aluation	PE NUMBER AND TITLE OCOMPAND TITLE OCO TO THE STAIN INVESTMENT		РРОЈЕСТ 3285
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)								E	
(U) Appropriation: Military Construction	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Compl	Cost
Appropriation: Virtually Constitution; Budget Activity: <u>Defense-Wide Mission Support</u> , Program Title: <u>Fighter Inlet Flow</u>				8,690						8,690
(U) D. Schedule Profile										
1	FY 1996 2 3	4	1 2 [판	$\frac{\text{FY 1997}}{2}$	4 1	FY 1998 2 3	% £	1 2	FY 1999 2 3	4
								,		
Project 3285			Pase 14 of 19 Pases	19 Paoes			П Х	Exhihit R.2 (PE 0604759E)	304759E)	
				200			-		2	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE	February 1997	790
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0604759F Major	nrle lajor Tes	t And Ev	aluation	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment		РВОЈЕСТ 3620
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3620 Air Force Flight Test Center	19,622	17,509	0	0	0	0	0	0	0 Continuing	TBD
Quantity of RDT&E Articles										

(U) A. Mission Description and Budget Item Justification The AFFTC, located at Edwards AFB, conducts and supports developmental test and evaluation and instrumentation operational capability. The Advanced Data Acquisition and Processing Systems (ADAPS) project provides an integrated capability to satisfy real-time first satisfy data processing and display needs at various multi-service test ranges. The AF GPS RAJPO Equipment project provides funding for the purchase of production GPS interoperability between systems and components by adherence to Air Force and DoD guidelines. The technologies being developed under ADAPS have the potential to generation post-test data processing, archival, and display requirements of the next decade. The developmental approach is directed towards providing a high degree of operational test and evaluation of aircraft and aircraft systems, aerospace research vehicles, unmanned miniature vehicles, cruise missiles, parachutes delivery/recovery interoperability/commonality. The goal of CAIS I&S is to integrate CAIS equipment and supporting instrumentation equipment and systems to provide a full airborne customer needs for real time, high-speed data, and greatly improve the overall range data relay capability. The ARIA Extended S-Band Telemetry upgrade ensures the equipment developed by the RAJPO (OSD funded) for tri-service application. The Space Based Data Relay (SBDR) project provides the capability for ARIA to fulfill systems, and cargo-handling systems. The AF Common Airborne Instrumentation System (CAIS) Integration & Support (CAIS I&S) supports DoD objectives for compatibility of the ARIA with the Expendable Launch Vehicles (ELV) and major DoD ranges.

(U) <u>FY 1996 (\$ in Thousands)</u> :	Continued CAIS I&S development. Completed CAIS diagnostic bench integration. Purchased CAIS low rate data recorder initial spares	-	Completed IOC o	nine track tapes currently being used.	Continued purchase of RAJPO GPS equipment. Conducted acceptance testing of GPS equipment murchased in FV 95	Continued ARIA Space Based Data Relay System program. Completed non-recurring engineering work on system design and T-2 aircraft		•
FY 1996 (\$ ii	(U) \$6,342		· (U) \$5,363		(U) \$3,408	(U) \$2,812	(U) \$1,697	(U) \$19,622
9	I		l		I	1	ı	ı

Exhibit R-2 (PE 0604759F) Page 15 of 19 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit	(1)	DATE February 1997	266
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0604759F Majo	DTITLE Major Test A	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment		РРОЈЕСТ 3620
 (U) \$\forall \text{5f.} 1997 (\mathcal{s} in Thousands): (U) \$\forall \text{5f.} 248 \text{Continue ARIA Space Based Data Relay program. Continue equipment installation/fabrication and \$\pi 2 \text{ aircraft modification.}\$ (U) \$\forall \text{5f.} 398 \text{ Continue CAIS l&S development. Purchase CAIS components for AFFTC use. Continue TIMS development with automated systems, automated diagnostics, and simulation capability. Begin development of a CAIS optical bus interface unit. (U) \$\forall \text{5f.} 398 \text{ Complete purchase of RAJPO GPS equipment.}\$ (U) \$\forall \text{5f.} 373 \text{ FOC of ADAPS RT/PFP. Procure second mass storage archive system. Begin integration of ADAPS with ground test simulation capabilities. (U) \$\forall \text{5f.} 50 \text{ Complete the ARIA Extended S-Band equipment installation and modification project.}\$ 	Continue equipment omponents for AFF ggin development of the archive system.	installation/fabric TC use. Continue f a CAIS optical b Begin integration ication project.	ation and #2 aircral TIMS developmer us interface unit. of ADAPS with gr	ft modification. It with automated setup of	systems, bilities.
(U) FY 1998 (\$ in Thousands): - (U) Not applicable.					
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) Not applicable.					
(U) B. Program Change Summary (\$\mathbb{S}\$ in Thousands)					
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	FY 1997 18,379 18,379	F <u>Y 1998</u> 17,850	<u>FY 1999</u> 14,237	Total <u>Cost</u>	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB (U) Change Summary Explanation: Funding: None. Schedule: None. Technical: None.	17,509	-152	-137 14,100		
Project 3620	Page 16 of 19 Pages		Exhi	Exhibit R-2 (PE 0604759F).	
	1160				

Project Activity Project Activity O604759F Major Toest And Evaluation Investment 3620	RDT&E BUDGET II	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAL	HS NOI	IEET (R	-2 Exhit	oit)		DATE Feb	February 1997	26
C. Other Program Funding Summary (S in Thousands) D. Schedule Profile FY 1996 FY 1997 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Control D. Schedule Profile FY 1996 FY 1997 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Control 1 , 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 5 4 1 2 3 3 4 1 3 3 4 3 4	SUDGET ACTIVITY 6 - Management and Support			PE NU	MBERAND 1	ाπ∟E Iajor Test	t And Ev	aluation	Investme		OJECT
D. Schedule Profile 1. 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 4 1 2 3 3 3 3 4 1 2 3 3 3 3 3 3 4 1 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	(U) C. Other Program Funding Summary (S in Thousands)									
D. <u>Schedule Profile</u> FY 1996 FY 1997 FY 1998 FY 1999	£	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To <u>Compl</u>	Total Cost
FY 1996 FY 1997 FY 1998 FY 1999	(y) U) D. Schedule Profile										
ect 3620 Pages 17 of 19 Pages	(n.	FY 1996		- 1 - 2 - 1	<u>X 1997</u> 3	4	<u>FY 199</u>		-	FY 1999 2 3	4
Page 17 of 19 Pages											
	Project 3620			Page 17 of 1	19 Pages			Exhibi	t R-2 (PE 06	304759F)	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	R-2 Exhi	bit)		DATE	Eobricon, 4007	796.
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0604759F Major	тте fajor Tes	PE NUMBER AND TITLE 0604759F Major Test And Evaluation Investment	aluation	Investmo	Š	PROJECT 2904
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	tost to	Total Cost
2904 Holloman Hypersonic Sled Trak	2,910	0	0	0	0	0	0	0		0
Quantity of RDT&E Articles										
(U) A. <u>Mission Description and Budget Item Jus</u> (Maglev) development program.	stification	Provides tecl	hnological up	ogrades to th	e Holloman	Provides technological upgrades to the Holloman Hypersonic Sled Track through the Magnetic Levitation	Sled Track t	hrough the I	Magnetic Le	vitation
(U) <u>FY 1996 (\$ in Thousands)</u> : - (U) \$2,910 Completed development - (U) \$2,910 Total	t and prototyping of a sled and rail girder system.	ing of a sled	i and rail gir	der system.						
(U) FY 1997 (<u>\$ in Thousands):</u> – (U) Not applicable.										
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) Not applicable.										
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) Not applicable.										
(U) B. Program Change Summary (\$ in Thousands)	(spur									
 (U) Previous President's Budget (U) Appropriated Value a. Cong Reductions b. SBIR c. Ommibus or Other Above Threshold Reprogram 	gram	FY 1996 3,000	·	FY 1997 0 0	FY 1998 0	FY 1999 0	<u>0</u> 10	Total <u>Cost</u>		
Project 2904			Page 18 of 19 Pages	19 Pages			Exhibit	Exhibit R-2 (PE 0604759F)	604759F)	
		-	1170							

RDT&E BUDGET ITEM J	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	(R-2 Exhi	bit)		DATE February 1997	v 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0604759F Majo	Major Tes	t And Eval	uation	PENUMBER AND TITLE 0604759F Major Test And Evaluation Investment	PROJECT 2904
d. Below Threshold Reprogramming (1.) Adinstments to Rudget Years Since FV 1997 PR	FY 1996	FY 1997	FY 1998	· FY 1999	*	Total <u>Cost</u>	
(U) Current Budget Submit/FY 1998 PB	2,910	0	0	0	_		
(U) Change Summary Explanation: Funding: None.							
Schedule: None.							
Technical: None.							
(U) C. Other Program Funding Summary (S in Thousands)	(spur						
FY 1996 (U)	FY 1997	FY 1998 FY 1999	29 FY 2000	FY 2001	FY 2002	To FY 2003 Compl	To Total npl Cost
(U) D. Schedule Profile							
(U) FY	FY 1996 2 3 4	FY 1997	4	FY 1998 2 3	4	FY 1999	3 4
						·	
Project 2904	Pc	Page 19 of 19 Pages			Exhibit	Exhibit R-2 (PE 0604759F))F)
		1171					

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PE NUMBER: 0605101F

UNCLASSIFIED

PE TITLE: Rand Project Air Force

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fat	Fahriiany 1997	67
BLIDGET ACTIVITY								-	Judaly 15	21
6 - Management and Support			090	DE NUMBER AND TITLE O605101F Rand	ritte and Proj	PENUMBER AND TITLE 0605101F Rand Project Air Force	orce			PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002	FY 2003	Cost to	Total Cost
					200		Commen	Collinate	Complete	
1110 RAND Project Air Force	23,862	21,061	21,768	21,594	21,447	21,271	21,643	22,223	22,223 Continuing Continuing	Continuing

(U) A. Mission Description and Budget Item Justification

aerospace issues and concerns. The PAF research agenda is focused primarily on mid- to long-term problems; in addition, PAF provides quick response assistance for senior Air Force officials on high priority, near term issues. Results and analytical findings directly impact senior management deliberations on major issues. The Air Federally Funded Research and Development Center for studies and analyses. This program provides for continuing analytical research across a broad spectrum of processed, and approved IAW PAF Sponsoring Agreement which requires General Officer (or SES equivalent) sponsorship and involvement on a continuing basis. This program is in budget activity 6 - Management and Support, Research Category 6.5 because it funds RAND Project AIR FORCE (PAF), the only Air Force Force Advisory Group (AFAG), chaired by the Vice Chief of Staff, reviews, monitors, and approves PAF annual research efforts. Each project is initiated,

- (U) PAF is organized in the three primary research program areas. The principle focus of PAF research is the transition of the Air Force to the 21st Century; to provide for the projection of aerospace power across the spectrum of conflict in an era of declining budgets, personnel and force structure. These programs are continuing efforts and do not lend themselves to a specific schedule profile.
- operations, preliminary evaluation of the Air Force's concept for near-term national defense, potential vulnerabilities of Air Force information systems, future role of the Air Force in space, implementation of lean logistics, improved access to private sources of support, and enhanced use of the commercial industrial base. A major (U) In FY96, principal research efforts included studies on USAF capabilities in MOOTW, potential sources of conflict and their implications for Air Force integrative effort, shaping the role of air power, was conducted in parallel with the major Air Force initiative in long-range planning.
- (U) In FY97, the principal focus of PAF research will continue to be Transition of the Air Force to the 21st Century. The overall research agenda will be coordinated with the decisions resulting from the Air Force long-range planning process, the demands of the quadrennial defense review, and continuing efforts to meet national security needs with lesser resources.
- (U) In FY98, PAF's main research thrust will focus on shaping the future Air Force, taking into account the findings of the QDR and national defense review. Major topics will include the evolving role of air and space power, force modernization - including transition to UAVs and integration of space operations, streamlining and reduction of the supporting infrastructure.
- (U) In FY99, research and analysis will continue on the long-term projects initiated in FY98 and prior years. New topics will evolve from major issues established by the Air Force senior leadership. Topics to be addressed by PAF will be commensurate with the special expertise and competencies purposefully developed, so PAF

Project 1110

Page I of 3 Pages

Exhibit R-2 (PE 0605101F)

RC	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE AND Support 0605101F Rand Project Air Force	PROJECT 1110
can continue to mak the division level.	can continue to make unique contributions to the Air Force. PAF research will continue to be organized in the three interrelated programs with integrated research at the division level.	programs with integrated research at
(U) Projects to be uintentionally broad, new technology, ac	(U) Projects to be undertaken in PAF studies will address organizational cross-cutting issues using an end-to-end approach. The scope of the research agenda is intentionally broad, encompassing the future security environment, strategy, doctrine, force development and application, operational sustainment, applications of new technology, advances in modeling and simulation and analytical methods, resource management and system acquisition.	scope of the research agenda is ational sustainment, applications of
(U) PAF efforts spiperspectives and de large. As a result, 1	(U) PAF efforts span functional and organizational boundaries and is managed in a manner to facilitate independence and freedom from organizational bias providing perspectives and deliberative thought to senior Air Force leaders which may otherwise reflect parochial spins not necessarily in the best interest of the Air Force at large. As a result, the research conducted relates to a wide spectrum of Air Force activities and emerging issues.	m from organizational bias providing e best interest of the Air Force at
(U) Benefits of ind PAF study results a range of qualified g	(U) Benefits of independent non-Department of Defense analysis of complex present day and emerging issues are enjoyed beyond the immediacy of the Air Force. PAF study results are given wide dissemination within the DOD on a routine basis and deposited with the Defense Technical Information Center available to a broad range of qualified government and commercial individuals and activities.	d the immediacy of the Air Force. rmation Center available to a broad
(U) FY96 actual le	(U) FY96 actual level of effort and projected levels for FY97, FY98 and FY99 are shown below.	
(U) FY 1996 (\$ in Thousands): - (U) \$4,800 Strategy a - (U) \$7,600 Force Emj - (U) \$7,200 Resource - (U) \$4,262 Division-Y - (U) \$23,862 Total	Thousands): Strategy and Doctrine Force Employment and Modernization Resource Management and Systems Acquisition Division-Wide Total	
(U) FY 1997 (\$ in Thousands): - (U) \$4,000 Strategy a - (U) \$6,500 Force Employ (Expert) - (U) \$6,561 Resource - (U) \$4,000 Division-V - (U) \$21,061 Total	Thousands): Strategy and Doctrine Force Employment and Modernization Resource Management and Systems Acquisition Division-Wide	
(U) FY 1998 (\$ in Thousands): - (U) \$4,000 Strategy a - (U) \$6,768 Force Em	Thousands): Strategy and Doctrine Force Employment and Modernization	
Project 1110	Page 2 of 3 Pages	Exhibit R-2 (PE 0605101F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	R-2 Exhib	 	DATE	1007
BUDGET ACTIVITY 6 - Management and Support	PENUMBER AND TITLE 0605101F Rand Project Air Force	ππ.E Rand Proje	ct Air Force		PROJECT
 (U) \$7,000 Resource Management and Systems Acquisition (U) \$4,000 Division-Wide (U) \$21,768 Total 					
(U) FY 1999 (\$ in Thousands): - (U) \$4,000 Strategy and Doctrine - (U) \$6,594 Force Employment and Modernization - (U) \$7,000 Resource Management and Systems Acquisition - (U) \$4,000 Division-Wide - (U) \$21,594 Total					
(U) B. Program Change Summary (\$ in Thousands) FY 1996 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR	EY 1997 23,292 23,292 -1,655	FY 1998 23,151	FY 1999 22,997	Total <u>Cost</u> TBD	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recessions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 President's Budget	21,061	-1,383 21,768	-1,403 21,594		
 (U) Change Summary Explanation: FY96 decrease: \$138K in support of Bosnia FY97 decreases: \$1,167K FFRDC reduction, \$576K SIBR and \$488K general reductions since FY97PB FY98 decreases: \$1,383K redirected to other Air Force priorities since FY97PB FY99 decreases: \$1,403K redirected to other Air Force priorities since FY97PB 	neral reductions si <i>(97</i> PB <i>(97</i> PB	nce FY97PB			
(U) C. Other Program Funding Summary (\$\frac{1}{2}\$ in Thousands) Not Applicable (U) D. Schedule Profile Not Applicable					
Project 1110 Pos	Page 3 of 3 Pages			Exhibit R-2 (PE 0605101F)	5101F)

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PE NUMBER: 0605306F

UNCLASSIFIED

PE TITLE: Ranch Hand II Epidemiology Study

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	LEET (R	-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0605306F Ranc	PE NUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study	nd II Epic	demiolog	y Study		PROJECT 2767
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2767 Ranch Hand II Epidemiology Study	3,006	8,842	10,933	4,488	4,625	4,685	11,959		11,573 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

whether long-term health effects exist and can be attributed to occupational exposure to phenoxy herbicides and their associated dioxins. Dioxin is an unwanted by-product personnel who were involved with aerial spraying of herbicides in Vietnam from 1962 to 1971 (Operation Ranch Hand). The objective of this investigation is to determine United States for Domestic Affairs and Policy upon the recommendation of the Interagency Working Group on the Possible Long-Term Effects of Phenoxy Herbicides and Contaminants. As a result of this Presidential direction, PE 0605306F was established to conduct a 20-year epidemiology investigation of approximately 1,200 Air Force (U) A. Mission Description and Budget Item Justification: This RDT&E Management Support program was directed in 1980 by the Assistant to the President of the from manufacturing Herbicide Orange.

study. Analyses of yearly mortality rates and the past and present health status of the study population were begun in 1982 with follow-up health examination schedules at the 3-, 5-, 10-, 15-, and 20-year time periods. The study includes examination of the possible occurrence of birth defects in children as determined from children's medical This project involves a 20-year study that compares United States Air Force (USAF) Ranch Hand personnel to other USAF crew members and support personnel who were not exposed to herbicides while serving in Vietnam. Approximately 2,200 individuals (exposed personnel group plus control group) are participating in the records and family medical histories.

- (U) FY 1996 (\$ in Thousands):
- (U) \$1,881 Issued Air Force Health Study contract.
 - (U) \$513 Completed annual mortality update.
- (U) \$162 Developed and archived optical disk storage system.
- (U) \$248 Updated the Participant Data Base with recent medical records, address, and phone numbers.
 - (U) \$202 Conducted statistical analyses in support of journals and reports.
 - (U) \$3,006 Tota
- (U) FY 1997 (\$ in Thousands):
- (U) \$7,117 Initiate next cycle of physical examinations, questionnaires, and participant data base.
 - (U) \$344 Conduct assays and data searches in support of ongoing epidemiologic study.

Project 2767

Page I of 3 Pages

Exhibit R-2 (PE 0605306F)

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RD	RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	2
BUDGET ACTIVITY 6 - Management and Support	nd Support	PE NUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study		PROJECT 2767
- (U) \$1,381 - (U) \$8,842	Process and document examination data. – (U) Archive previous cycles' examination data and digitize the 1997 data as received. – (U) Conduct medical records coding and examination data base verification. – (U) Perform annual mortality analysis. Total	and digitize the 1997 data as received. nation data base verification.		
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$8,419	Complete next cycle of physical examinations, questionnaires, and participant data base. - (U) Conduct serum dioxin assay and address searches. Process and document examination data. - (U) Conduct examination data base verification. - (U) Complete archiving previous cycles' examination data and digitize the 1998 data. - (U) Conduct medical records coding. - (U) Perform annual mortality analysis. - (U) Conduct data analysis for journals and reports.	plete next cycle of physical examinations, questionnaires, and participant data base. (U) Conduct serum dioxin assay and address searches. ess and document examination data. (U) Conduct examination data base verification. (U) Complete archiving previous cycles'examination data and digitize the 1998 data as received. (U) Complete archiving previous cycles'examination data and digitize the 1998 data as received. (U) Conduct medical records coding. (U) Perform annual mortality analysis. (U) Conduct data analysis for journals and reports.		
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$2,826 Comple - (U) \$1,662 Process - (U) \$- (housands): Complete examination data base and conduct statistical analyses. - (U) Conduct serum dioxin assay and address searches. Process and document examination data. - (U) Update participant data base. - (U) Initiate archiving of examination data. - (U) Conduct medical records coding. - (U) Perform annual mortality analysis. - (U) Conduct data analysis for journals and reports. Total	ard analyses. arches.		
Project 2767	Page	Page 2 of 3 Pages	Exhibit R-2 (PE 0605306F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATIO	N SHEET	(R-2 E)	(hibit)	٥	DATE February 1997	y 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605306F Ranc	ND TITLE	Hand II Ep	PENUMBER AND TITLE 0605306F Ranch Hand II Epidemiology Study	Study	РRОЈЕСТ 2767
(U) B. Program Change Summary (\$ in Thousands):		:			Total		
(U) Previous President's Budget (U) Appropriated Value	FY 1996 3,025 3,139	FY 1997 9,212 9,212	FY 1998 9,703	FY 1999 4,526	Cont		
 (U) Adjustments to Appropriated Value a. Congressional/General Reductions b. SBIR c. Omnibus/Other Above Threshold Reprogrammings d. Below Threshold Reprogrammings (U) Current Budget Submit/FY 1998 PB 	-61 -52 -19 -1 3,006	-192 -170 -8 -8	10,933	4,488	Cont		
(U) Change Summary Explanation: Funding: Funding levels vary due to timing of patient physical exams.	hysical exams.						
Schedule: Not Applicable.							
Technical: Not Applicable.							
(U) C. Other Program Funding Summary: Not Applicable.							
(U) D. <u>Schedule Profile</u> : Not Applicable.							
Project 2767	Pa	Page 3 of 3 Pages		ļ	Exhibit	Exhibit R-2 (PE 0605306F)	IGF)
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PE NUMBER: 0605704F

UNCLASSIFIED

PE TITLE: Theater Air Defense BMC41

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	766
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0605704F Thea	PE NUMBER AND TITLE 0605704F Theater Air Defense BMC4I	ir Defens	e BMC4			РРОЈЕСТ 1010
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1010 Theater Air Defense Battle Mgt C41	12,362	12,010	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(JTAMDO). By direction of OSD and JCS, the funding and activities of the EA TAD BMC4I program transferred to PE 06051261 so FY97 is the final budget year for This project was established in response to a charter from ASD/C31 identifying the Air Force as the Executive Agent for Theater Air Defense Battle Management Command, Control, Communications, Computers, and Intelligence (TAD BMC4I). In order to establish a single DoD organization for joint theater air and missile defense requirements, the Secretary of Defense and the Chairman of the Joint Chiefs of Staff have formed the Joint Theater Air and Missile Defense Organization EA TAD BMC4I.

(U) A. Mission Description and Budget Item Justification

The EA TAD BMC41 program described below supported the study, analysis, demonstration and establishment of integrated TAD BMC4I which fuses and expands analyzing TAD BMC4I issues in a coordinated Joint Staff/Services/CINCs/Defense Agencies manner; reviewing TAD requirements, programs, systems, architectures, on existing capabilities to support the theater CINCs. It involved defining baseline TAD BMC4I architectures and developing near-term and objective architectures; studies, modeling and any associated impacts on TAD BMC4I interoperability; identifying TAD BMC4I shortfalls and proposed solutions; establishing and maintaining a TAD BMC4I requirements data base; assessing allied TAD BMC4I issues; and supporting exercises and demonstrations of integrated TAD BMC4I capabilities.

(U) FY 1996 (\$ in Thousands): (U) \$1,630

Performed interoperability reviews for requirements, programs, systems, architectures, and modeling for TAD BMC41. Explored Service and Joint BMC4I systems for disconnects and opportunities to improve joint integrated BMC4I. Developed baseline TAD BMC4I integrated architectures. (U) \$9,555

Developed TAD Command and Control (C2) Plan. (U) \$650 (U) \$527

Supported CINCs' assessments of operational Theater Air Defense capabilities, identified procedural and architectural shortcomings, and experimented with potential procedural and hardware/software solutions and demonstrations which support TAD architecture.

(U) \$12,362

Project 1010

Page 1 of 3 Pages

Exhibit R-2 (PE 0605704F)

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET	R-2 Exhib	<u> </u>	DATE	1007
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605704F Thea	PE NUMBER AND TITLE 0605704F Theater Air Defense BMC41	Defense Bl	MC4I TEDILICAL PROJ	PROJECT 1010
(U) <u>FY 1997 (\$ in Thousands)</u> - (U) \$4,046 Develope including	<u>Thousands):</u> Developed framework and concepts for architecture validation and migration roadmap for near-term TAD BMC4I architecture (FY2003), including required extern tachnical and operational forms.	validation and migr	ation roadmap fo	r near-term TA	D BMC4I architecture (FY20	
- (U) \$4,871	systems level and framework for technical standards development for future TAD enhancements. Continued interoperability reviews for requirements, programs, systems, and modeling for TAD BMC41. Explored Service and Joint Battle Management Command, Control, Communications, Committers and Intelligence (BMC41) systems, 6th discouragement Command,	Junctional migration development for further further for further for further for further for further for further further further for further f	ns. Developed n ture TAD enhanc architectures, ar ers. and Intellige	ear-term TAD E sements. Id modeling for	MC4I architectures includin TAD BMC4I. Explored Serv	ig required
- (U) \$ 720	to improve joint integrated BMC4I. Continued Command and Control (C2) Plan development to fully integrate Battle Management and Intelligence functions, and planned automated Joint TAD BMCAI planning completion.	oment to fully integr	ate Battle Manag	ement and Intel	secus for disconnects and op- ligence functions, and planne	pportunities
- (U) \$2,373 - (U) \$12,010	Funded management support activities. Total					
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 N/A - (U) \$0 Total	<u>Phousands):</u> N/A Total					
(U) <u>FY 1999 (\$ in T</u> - (U) \$0 - (U) \$0	<u>Thousands):</u> N/A Total					
(U) B. Program Chang	(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget	FY 1996 Budget	FY 1997 12,496	FY 1998 18,300	FY 1999 18,050	Total <u>Cost</u> 48,846	
 (U) Appropriated Value (U) Adjustments to Appropriated Value 		12,496				
b. SBIR c. Omnibus or Other	b. SBIR c. Omnibus or Other Above Threshold Reprogram +12,960	-357 -129 ·				
(U) Adjustments to Budget Years Since FY 199 (U) Current Budget Submit/President's Budget	(U) Adjustments to Budget Years Since FY 1997 PB -134 (U) Current Budget Submit/President's Budget 12,362	12,010	-18,300 0	-18,050 0	24372	
Project 1010	I	Page 2 of 3 Pages			Exhibit R-2 (PE 0605704F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (3-2 Exh	lbit)		DATE	1	February 1	1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605704F Theater Air Defense BMC4I	TITLE Iheater	Air Defe	nse Bl	¶C4∐		- 1	PROJECT 1010
 (U) Change Summary Explanation: Funding: FY98 and FY99 funding transferred to JTAMDO organization (PE 0605126J) Schedule: Program content transferred to JTAMDO Technical: Program content transferred to JTAMDO 	(PE 0605126J)							
(U) C. Other Program Funding Summary (\$\frac{1}{2}\$ in Thousands): Not Applicable								
(C) 1 2 3 4 1	6	4	2	m	4		æ	4
Project 1010	Page 3 of 3 Pages			ш	xhibit R-	Exhibit R-2 (PE 0605704F))5704F)	
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PE NUMBER: 0605712F

UNCLASSIFIED

PE TITLE: Initial Operational Test & Eval

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NE 000	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	пте nitial Ope	rational	Test & E	val	d .	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
0191 Initial Operational Test & Evaluation (IOT&E)	22,948	21,454	28,319	25,035	28,935	30,063	31,112		31,841 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification: This program funds IOT&E tests conducted to evaluate a system's operational effectiveness and suitability and to identify any operational deficiencies or need for modifications in support of the acquisition process. IOT&E is an evaluation of a system's performance when the complete IOT&E to support major weapon system acquisition decisions (Milestone III). For major systems designated for use in combat, the law requires IOT&E be completed under deployed. In general, IOT&E is performed on new systems in development, major modifications and other systems as directed. This PE funds Congressionally mandated realistic field conditions before proceeding beyond low rate initial production. As an essential element of IOT&E, this PE will fund major Operational Utility Evaluations programs are identified in five categories: aircraft/support; space; missile/munitions; computer, communication, command and control and information (C41); and general. (OUE), Early Operational Assessments (EOA) and Operational Assessments (OA) which support major milestones and decision points prior to Milestone III. IOT&E system is tested and evaluated against operational criteria by personnel with the same qualifications as those who will operate, maintain and support the system when This PE funds the costs of the test (e.g., data reduction, range costs, etc.), not the development of test resources or the maintenance of test infrastructure.

(U) FY 1996 (\$ in Thousands):

(U) FY 96 IOT&E Accomplishments: F-22; B-1B CMUP BLK E; B-2; CMU, MILSTAR, Theater Battle Management C2 Information Processing System (TBM); E3 Radar System Improvement Program (E3 RSIP); AIM-9X (Air Intercept Missile) and etc.

- F-22: Completed and obtained approval of F-22 comparison test concept. Developed draft operational assessment (OA) plan.
 - B-1B CMUP BLK E: Conducted pretest planning.
- B-2: Continued combined developmental and operational flight test missions in support of B-2 test and evaluation for report due in Dec 97.

(U) Category: Space:

- CMU: Missile warning IOT&E completed
- MILSTAR: Completed 80 percent MILSTAR low data rate testing.

(U) Category: Missile/Munitions

- AIM-9X: Digital missile model development - to evaluate kinematic performance and capabilities of missiles, and modeling /simulation to support AIM-9X lethality assessment.

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Exhibit R-2 (PE 0605712F)

RDT8	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997	1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	PROJECT
	 (U) Category: Computer, Communication, Command and Control and Information System (C4 I). TBM: Advance planning stage; accomplished test readiness review. E3 RSIP: Program complete. Finished IOT&E and coordinating briefing trail/milestone III for RSIP. 	
- (U) \$22,948	Total	
(U) <u>FY 1997 (\$ in Thousands);</u> – (U) \$21,454 (U) FY 97 IOT&E PI CMUP BLK E; B-1B	Isands): (U) FY 97 IOT&E Planning Program: Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F- 15C/E TEWS; B-1 CMUP BLK D; B-1 CMUP BLK E; B-1B CMUP BLK F; CV-22; and etc.	K D; B-1
	(U) Category: Aircraft/Support, Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F- 15C/E TEWS; B-1 CMUP BLK D; B-1 CMUP BLK E; B-18 CMUP BLK F; CV-22; and other systems. - F-22: Develop and gain approval for the Operational Assessment Plan to support Low Rate Initial Production (LRIP). Conduct F-22 FMS Review. Develop modeling/simulation plan, F-15C Comparison Test Plan, Roll-up Methodology Model, and Integrated Data Processing Plan. - JSF: Develop and implement initial AFOTEC Test Concept. Initiate the development of Critical Operational Issues (COIs), Measures of Effectiveness (MOEs), and Measures of Performance (MOPs) with USN, USMC, and ACC. - F-15 TEWS: The system provides self protection for F-15 aircraft. TEWS consists of four federated subsystems; the ALR-56 Radar Warning Receiver (RWR), The ALQ-153 Internal Countermeasures Set (ICS-a jammer), the ALQ-128 Electronic Warfare Warning Set (EWWS), and the ALE-45 Countermeasures Dispenser (CMD). The ALR-56C provides threat warning for F-15C/E aircraft. The Band 3 forwides countermeasures for F-15C/E aircraft. Neither the ALR-56C, Band 3, or Bank 1.5 have ever undergone an IOT&E. All of the ALR-15C/E aircraft advance planning. - B-1 CMUP Blocks E/F: Conduct Operational Assessment. - B-1 CMUP Block D: Conduct Operational Assessment. - CV-22: Conduct Operational Assessment.	B-1 c-22 FMS cessing asures of adar g Set Band 3 of the ALR-
Project	Page 2 of 7 Pages Exhibit R-2 (PE 0605712F)	(
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RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support		
	 (U) Category: Space. Conduct IOT&E on CMU-CMU; ICBM Minuteman III GRP; MILSTAR; Evolved Expendable Launch Vehicle (EELV); Space Based Infrared System (High); Space Based Infrared System-LOW (SBIRS-LEO) and etc. - CMU: Conduct Granite Shield and Air Mission Testing. - ICBM GRP: Conduct Operational Assessment and modeling/simulation. - MILSTAR: Complete Low Data Rate IOT&E and pre-test planning for MILSTAR II IOT&E - EELV: Conduct Operational Assessment, IOT&E Pre-test planning and Modeling/Simulation. - SBIRS (High): Conduct pre-test planning, modeling/simulation, validation verification & accreditation (VV&A) effectiveness model, ground and space segment survivability analysis, and manning, workload and performance assessment. - SBIRS (Low): Conduct OT&E program readiness assessment, monitoring design and test activities, infrared sensor stimulation/risk reduction analysis (IRSS), hardware/software integration for flight test demo, hardbody radiation analysis, and pre-test planning. 	ved Expendable Launch Vehicle stc. (VV&A) effectiveness model, rared sensor stimulation/risk s, and pre-test planning.
	 (U) <u>Category: Missile/Munitions.</u> - Conduct IOT&E on Joint Direct Attack Munitions (JDAM); Joint Standoff Weapon (JSOW); AIM-9X Air-to-Air (AIM-9X); and Joint Air-to Surface Stand-OFF Missile (JASSM), and etc. - JDAM: Conduct test planning, operational assessment and IOT&E contractor support, target build-up, and range support. - JSOW: Conduct test planning, test execution, contractor support, and range support. - AIM-9X: Conduct Modeling/Simulation. - JASSM: Oct 96 - Mar 97. Complete Evaluation Concept and start OT&E Test Plan including: test design matrix, refine test scenarios, complete development of JASSM survivability, damage, and reliability methodology. Outline Preliminary Data Management Analysis Plan (DMAP). 	tandoff Weapon (JSOW); AIM-9X and range support. gn matrix, refine test scenarios, y Data Management Analysis Plan
	(U) Category: Computer, Communication, Command and Control and Information System (C4 I). Conduct IOT&E on JTIDS Class 2 Terminal Multiservice (JTIDS CL2) and etc JTIDS Class 2 Terminal: Conduct Multi-service IOT&E and range support.	duct IOT&E on JTIDS Class 2
	(U) Category: General. Conduct IOT&E on Wind Corrected Munitions Dispenser (WCMD) and Chemical Hardened Air Transportable Hospital (CHATH). - WCMD: System is a new tail kit designed to correct for launch transients, ballistic error from lofts, medium-and high altitude deliveries, and unknown winds between release point and function altitude for CBU (CEM/Gator/SFW) munitions. The combined DT/IOT&E will support an initial LRIP decision in Nov 97, a B-52 required assets available (RAA) data in Feb 97 and Milestone III in FY99. - CHATH: Program is a modification to the currently-fielded Air Transportable Hospital (ATH). The additional configuration includes currently-fielded M-28 chemical liners and airlocks, and the developed chemically hardened air management plan (CHAMP), a four-to-one replacement for the ECU. The CHAMP provides the over-pressurization and filtered air needed to chemically harden the ATH. DT&E completed in Dec 96, system certification in Feb. 97, IOT&E testing 3 Mar - 7 Apr 97, and Milestone III decision in May 97.	ical Hardened Air Transportable lium-and high altitude deliveries, The combined DT/IOT&E will lestone III in FY99. ditional configuration includes lent plan (CHAMP), a four-to-one cally harden the ATH. DT&E decision in May 97.
roject	Page 3 of 7 Pages	Exhibit R-2 (PE 0605712F)

RDT	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	d Support	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	
– (U) \$21,454	Total		
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$28,319 (<u>U) FY</u> CMUP	7 98 IOT&E BLK E; B-1	Planning Program: Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F-15 TEWS; B-1 CMUP BLK D; B-1B B CMUP BLK F; CV-22; and etc.	WS; B-1 CMUP BLK D; B-1B
	(U) Category: Aircraft/Support. Conduct IOT&E on the F-22; J BLK E; B-1B CMUP BLK F; CV-22; and etc F-22: Implement Operational Assessment plan and reporting res Test Plan and coordinate required range and aircraft requirements JSF: Develop, coordinate with USN/USMC, and gain approval and initiate resource acquisition.	(U) Category: Aircraft/Support. Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F-15 TEWS; B-1 CMUP BLK D; B-1 CMUP BLK E: B-1B CMUP BLK F; CV-22; and etc F-22: Implement Operational Assessment plan and reporting results to LRIP. Finalize Roll-up Methodology Model and F-15C Comparison Test Plan and coordinate required range and aircraft requirements JSF: Develop, coordinate with USN/USMC, and gain approval of Early Operational Assessment Plan. Prepare resource requirement plan and initiate resource acquisition.	B-1 CMUP BLK D; B-1 CMUP ology Model and F-15C Comparison Prepare resource requirement plan
	 F-15 TEWS: Conduct suitability assessment, and type 1 training B-1B CMUP Block D: Conduct IOT&E testing. B-1B CMUP Block E: Conduct advance planning, contractor support modeling simulation B-1B CMUP Block F: Conduct advance planning, contractor support, fuze model developr (JMASS), and end game interface work. CV-22: Conduct operational test. 	 F-15 TEWS: Conduct suitability assessment, and type 1 training B-1B CMUP Block D: Conduct IOT&E testing. B-1B CMUP Block E: Conduct advance planning, contractor support modeling simulation B-1B CMUP Block F: Conduct advance planning, contractor support, fuze model development, Joint Modeling and Simulation System (JMASS), and end game interface work. CV-22: Conduct operational test. 	lodeling and Simulation System
	(U) Category: Space. Conduct IOT&E on CMU-C Evolved Expendable Launch Vehicle (EELV); Spacetc.	(U) Category: Space. Conduct IOT&E on CMU-CMU; ICBM-Minuteman III Guidance Program (ICBM-MMIII GRP); MILSTAR; Evolved Expendable Launch Vehicle (EELV); Space Based Infrared System-High; Space Based Infrared System-LOW (SBIRS-LEO); and etc.	M-MMIII GRP); MILSTAR; System-LOW (SBIRS-LEO); and
	 CMU: Finish air mission testing, and Cheyenne Mountain testing. ICBM GRP: Modeling/Simulation, range support, and guidance replacement testing. MILSTAR: Participate in combined DT/OT. EELV: Conduct Operational Assessment, IOT&E pre-test planning, modeling/simulation SBIRS (HIGH): Modeling/simulation, Validation Verification and Accreditation (VV&A survivability analysis, operational assessment of ground consolidation, hardware/software i SBIRS (LOW): OT&E Program Readiness Assessment, Modeling and Simulation, Test a 	 - CMU: Finish air mission testing, and Cheyenne Mountain testing. - ICBM GRP: Modeling/Simulation, range support, and guidance replacement testing. - MILSTAR: Participate in combined DT/OT. - EELV: Conduct Operational Assessment, IOT&E pre-test planning, modeling/simulation. - SBIRS (HIGH): Modeling/simulation, Validation Verification and Accreditation (VV&A) Effectiveness models, ground and space segment survivability analysis, operational assessment of ground consolidation, hardware/software integration, and planning for FY99 IOT&E. - SBIRS (LOW): OT&E Program Readiness Assessment, Modeling and Simulation, Test and Evaluation Planning; and pre-test planning. 	s models, ground and space segment planning for FY99 IOT&E.
Project	Pa		ibit R-2 (PE 0605712F)
Project	Pas	Page 4 of 7 Pages Exh	Exhibit R-2 (PE 0605712F)

RDT	RDT&E BUDGET ITEM JUSTIFICATION	ITEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997
BUDGET ACTIVITY 6 - Management and Support	d Support	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval
	Air-to-Air (AIM-9X); and Joint Air-to Surface Stand-OFF Missile (JASSM), and etc JDAM: Conduct IOT&E testing, contractor support, and range support - JSOW: IOT&E testing, phase II test planning and contract support - AIM-9X: Data Reduction, DMAP production and modeling/simulation - JASSM: Oct 97 - Jan 98 - Complete OT&E Test Plan; develop and provide progra brief Milestone II operational assessment; finalize CDT/OT plan with JPO and contra and possible simulator deployments.	(U) Category: Missile/Munitions. Conduct IOT&E on Joint Direct Attack Munitions (JDAM); Joint Standoff Weapon (JSOW); AIM-9X Air-to-Air (AIM-9X); and Joint Air-to Surface Stand-OFF Missile (JASSM), and etc. - JDAM: Conduct IOT&E testing, contractor support, and range support - JSOW: IOT&E testing, phase II test planning and contract support - AIM-9X: Data Reduction, DMAP production and modeling/simulation - JASSM: Oct 97 - Jan 98 - Complete OT&E Test Plan; develop and provide program introduction document to test ranges; complete and brief Milestone II operational assessment; finalize CDT/OT plan with JPO and contractors, range costs including simulator initial checkout and possible simulator deployments.
	(U) Category: Computer, Communication, Command and Control and Information System (C41). Operations Center (R/SAOC); Joint Precision Approach and Landing System (JPALS) and etc R/SAOC (formerly R/SOCC): Concept development and test plan developments JPALS: Conducting Operational Test, contractor support, data analysis, data reduction, and range	(U) Category: Computer, Communication, Command and Control and Information System (C41). Conduct IOT&E on Region/Sector Air Operations Center (R/SAOC); Joint Precision Approach and Landing System (JPALS) and etc. - R/SAOC (formerly R/SOCC): Concept development and test plan developments. - JPALS: Conducting Operational Test, contractor support, data analysis, data reduction, and range support.
	(U) Category: General. Conduct IOT&E on Wind Corrected Munitions Dispenser (WCMD); etc WCMD: IOT&E test continues at Eglin AFB FL., and Utah Test and Training Range. Dedicated evaluate multiple-wean deliveries and to measure CEP to an 80% confidence level.	(U) Category: GeneralConduct IOT&E on Wind Corrected Munitions Dispenser (WCMD); etc WCMD: IOT&E test continues at Eglin AFB FL., and Utah Test and Training Range. Dedicated IOT&E will employ inert munitions to evaluate multiple-wean deliveries and to measure CEP to an 80% confidence level.
_ - (U) \$28,319	Total	
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$25,035 (U) FY CMUP	99 IOT&E BLK F; an	Planning Program: Conduct IOT&E on the F-22, Joint Strike Fighter (JSF); F-15 TEWS; B-1B CMUP BLK E; B-1B etc.
	 (U) Category: Aircraft/Support. Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F. CMUP BLK F; CV-22; and etc. F-22: Conduct F-15C Comparison Test open-air Testing; Conduct Operational Assessment-JSF: Conduct Early Operation Assessment. F-15 TEWS: Conduct IOT&E testing. B-1B CMUP Block E: Advance planning, contractor support, and modeling/simulation. B-1B CMUP Block F: Advance Planning, contractor support, and fuze model development. CV-22: Contractor support for operational evaluation (OPEVAL) 	 (U) Category: Aircraft/Support. Conduct IOT&E on the F-22; Joint Strike Fighter (JSF); F-15C/E TEWS; B-1 CMUP BLK E; B-1B CMUP BLK F; CV-22; and etc. F-22: Conduct F-15C Comparison Test open-air Testing; Conduct Operational Assessment to Support Certification Ready for IOT&E. - JSF: Conduct Early Operation Assessment. F-15 TEWS: Conduct IOT&E testing. B-1B CMUP Block E: Advance planning, contractor support, and modeling/simulation. B-1B CMUP Block F: Advance Planning, contractor support, and fuze model development. CV-22: Contractor support for operational evaluation (OPEVAL)

Exhibit R-2 (PE 0605712F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATIO	N SHEET (R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605712F Initia	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	ational Test	1
(U) Category: Space. Conduct IOT&E on CN - CMU: Complete Cheyenne Mountain Testing MILSTAR: Participate in combined DT/OT EELV: Conduct Operational Assessment #2.	101&E on CMU-ountain Testing. bined DT/OT. ssessment #2.	CMU; MILSTAR	; Evolved Exper	ndable Launch V	Conduct IOT&E on CMU-CMU; MILSTAR; Evolved Expendable Launch Vehicle (EELV); and etc. yenne Mountain Testing. e in combined DT/OT. ational Assessment #2.
 (U) Category: Missile/Munitions. Conduct IOT&E for Joint Standoff Weapon (JS Surface Stand-OFF Missile (JASSM), etc. - JSOW: Conduct IOT&E testing, phase II testing planning, and contractor support. - AIM-9X: Conduct data reduction, DMAP Production, and modeling/simulation. - JASSM: Participate and accomplish CDT/OT; prepare for IOT&E (planned start including possible simulator deployment and early CDT/OT testing. 	le/Munitions. Conduct IOT&E for Joint Standoff Weapon (Jissile (JASSM), etc. T&E testing, phase II testing planning, and contractor suppordata reduction, DMAP Production, and modeling/simulation. and accomplish CDT/OT; prepare for IOT&E (planned start nulator deployment and early CDT/OT testing.	Efor Joint Stande lanning, and cont ion, and modeling pare for IOT&E (3DT/OT testing.	off Weapon (JSC ractor support. g/simulation. planned start Fe	vW); AIM-9X A	 (U) <u>Category: Missile/Munitions.</u> Conduct IOT&E for Joint Standoff Weapon (JSOW); AIM-9X Air-to-Air (AIM-9X); and Joint Air-to Surface Stand-OFF Missile (JASSM), etc. - JSOW: Conduct IOT&E testing, phase II testing planning, and contractor support. - AIM-9X: Conduct data reduction, DMAP Production, and modeling/simulation. - JASSM: Participate and accomplish CDT/OT; prepare for IOT&E (planned start Feb). Provide manpower and equipment, and range cost including possible simulator deployment and early CDT/OT testing.
(U) Category: Computer, Comm Operation Center (R/SACC), etc - R/SAOC (formerly R/SOCC):	outer, Communication, Command a SACC), etc. R/SOCC): Conduct OT&E testing	nd and Control a	nd Information S	ystem (C4I). ((U) Category: Computer, Communication, Command and Control and Information System (C4I). Conduct IOT&E on Region/Sector Air Operation Center (R/SACC), etc R/SAOC (formerly R/SOCC): Conduct OT&E testing
 (U) Category: General. Conduct IOT&E Casualty Care Systems; Base Intrusion Security Systems (BISS); Chemical Next Generation Generators and External Control Unit; etc. CCS: Test all newly developed flyaway transportable medical care systems. BISS: Conduct on-going tests of various commercial off-the-shelf and other personnel and asset protection techniques. CWD: AF focus of chemical protection programs. Next Generation Generator and External Control Units: Support the Airbase Operability Concept. 	ct IOT&E Casualty External Control Ui flyaway transporta of various commerc rotection programs. External Control U	Care Systems; Enit; etc. ble medical care ial off-the-shelf a	hase Intrusion Se systems. and other personi : Airbase Operab	curity Systems rel and asset pro ility Concept.	(U) Category: General. Conduct IOT&E Casualty Care Systems; Base Intrusion Security Systems (BISS); Chemical Warfare Defense, Next Generation Generators and External Control Unit; etc CCS: Test all newly developed flyaway transportable medical care systems BISS: Conduct on-going tests of various commercial off-the-shelf and other personnel and asset protection techniques CWD: AF focus of chemical protection programs Next Generation Generator and External Control Units: Support the Airbase Operability Concept.
- (U) \$25,035 Total					
 (U) B. Program Change Summary (\$\mathbb{S}\$ in Thousands): (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value 	FY 1996 23,806	FY 1997 26,921 21,921	<u>FY 1998</u> 34,601	FY 1999 31,320	<u>Total Cost</u> Cont
(U) Current Budget Submit/President's Budget	22,948	21,454	-6,282 28,319	-6,285 25,035	Cont
Project	Pag	Page 6 of 7 Pages			Exhibit R-2 (PE 0605712F)

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Estructions 4007
port	PE NUMBER AND TITLE 0605712F Initial Operational Test & Eval	PROJECT PROJECT
(U) Change Summary Explanation: Funding: FY97 congressional reduction of \$5 million. FY98 and FY99 budget changes reflect content and requirements admistments	budget changes reflect content and requirements adjustm	ents
Schedule: None.		
Technical: None.		
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.		
(U) D. Schedule Profile: Not applicable		
Project Page	Page 7 of 7 Pages Exhibit	Exhibit R-2 (PE 0605712F)
	1101	

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1192

PE NUMBER: 0605807F

UNCLASSIFIED

PE TITLE: Test And Evaluation Spt

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fol	February 1997	202
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	Evaluatio	n Spt		in and a	
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	436,454	414,901	389,348	389,527	396,398	382,594	396,079	410,520	Continuing	TBD
06TS Test and Evaluation Support (1)	317,370*	306,651*	367,175	366,258	372,737	359,309	369,955	383,416	Continuing	TBD
06AS Aircraft Support (2)	12,294*	11,899	0	0	0	0	0	0	0	TBD
06MC Minor Construction (3)	3,838*	3,640	0	0	0	0	0	0	0	TBD
06MR Maintenance and Repair (4)	81,588*	72,557	0	0	0	0	0	0	0	TBD
06TG 46 Test Group	21,364*	20,154*	22,173	23,269	23,661	23,285	26,124	27,104	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(1) Reginning in FV98 all test support mission rea	of the contraction of the	141								

FY98 are the test facility maintenance, repair and minor construction requirements formerly funded in projects 06MR and 06MC. Those two projects captured both test and non-test requirements in FYs 96 and 97. Beginning in FY98, the non-test maintenance and repair and minor construction requirements (i.e., in support of non-test general installation infrastructure such as dormitories, general purpose buildings) were transferred to PE 0605878 (Maintenance and Repair) and PE 0605876F (Minor (1) Beginning in FY98, all test support mission requirements and their associated funding are consolidated in projects 06TS and 06TG of PE 0605807F. All test support functions. In addition, approximately \$20M each year across the FYDP from PE 0605896F (Base Operations Support) was deemed test related content and therefore aircraft requirements and funding were realigned to 06TS for FY98-03 (formerly in project 06AS for FYs 96 and 97). Also consolidated in project 06TS starting in Construction), respectively, thus carving out the non-test requirements and placing them in PEs whose nomenclature mirrors the rest of the Air Force's base support transferred to this project starting in FY98.

Aircraft Support requirements and funding moved to Test and Evaluation Support, project 06TS, for FYs 98-03. වල

Approximately 50% of FY98-03 content and funding for Minor Construction, project 06MC, were transferred to PE 0605876F. This transfer provides better focus and alignment of resources for non-test, common base operations support functions at Arnold, Eglin and Edwards AFBs. The other 50% of content was identified specifically as test mission support requirements and accordingly transferred to project 06TS.

Approximately 75% of FY98-03 content and funding for Maintenance and Repair, project 06MR, were transferred to PE 0605878F. This transfer provides better focus and alignment of resources for non-test, common base operations support functions at Arnold, Eglin and Edwards AFBs. The other 25% was identified specifically as test facility maintenance and repair requirements and was accordingly transferred to project 06TS. 3

This R-2's FY96/97 project totals (shown above) are correct. Due to an administrative error, the automated budget submission has incorrect project allocations in FY96 (06TS \$324,612 / 06AS \$14,156 / 06MC \$3,588 / 06MR \$85,865 / 06TG \$8,233) and FY97 (06TS \$279,874 / 06TG \$46,931).

Page 1 of 18 Pages

Exhibit R-2 (PE 0605807F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY PE NUMBER AND TITLE	
6 - Management and Support	
(U) A. Mission Description and Budget Item Justification: This program element funds infrastructure resources (civilians, aircraft, facilities and ranges) to operate the	facilities and ranges) to operate the
Air Force test activities which are included in the Department of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through	cilities/capabilities operated through
this program include wind tunnels, rocket and jet engine test cells, limited space environmental simulation chambers, armament test ranges, climatic test facilities, avionics	ges, climatic test facilities, avionics
test facilities, aircraft testbeds, dry lakebed landing sites, and instrumented test ranges. It also provides resources for maintaining Air Force Materiel Command (AFMC)	rce Materiel Command (AFMC)
assigned test and test support coded aircraft. The 46 Test Group (46TG) provides the following unique capabilities as part of the DoD MRTFB: the High Speed Test Track	ARTFB: the High Speed Test Track
(HSTT), Central Inertial Guidance Test Facility (CIGTF), and the Radar Target Scatter (RATSCAT) facility.	•

(U) B. Program Change Summary (\$ in Thousands):

<u>Total Cost</u> Cont							Cont
<u>FY 1999</u> 435,323	-45,796	006,6-	-59,444	20,740	4,000	-1,192	389,527
FY 1998 437,024	-47,676	-9,900	-57,053	20,633	4,000	-5,356	389,348
FY 1997 425,195 425,195 -10,388							414,797
FY 1996 423,827							436,454
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Congressional Adjustments	(U) Adjustments to Budget Years Since FY 1997 PB	a. DBOF financial services (DFAS) transfer	 b. Transfers to non-test RPM/MC PEs 	c. Test support content from PE 0605896F	d. Tunnel 9 transfer from Navy effective FY98	e. Misc adjustments	(U) Current Budget Submit/President's Budget

(U) Change Summary Explanation:

Funding: FYs 98-03 incorporates several revisions to move all non-test base support functions out of the test support PE. Likewise, all content in PE 0605896F that is more accurately identified as test support has been transferred to this PE effective FY98. The cumulative effect of these changes carves out test from non-test, aligns test vs non-test requirements in their appropriate PEs, and shows a more accurate accounting for both test support and base support functions. Navy's Tunnel 9 facility becomes an Air Force test facility effective 1 Oct 97. Tunnel 9 will be captured under AEDC's infrastructure requirements; thus its \$4M/yr overhead funding was added to this PE across the FYDP.

Schedule: None.

Technical: None.

(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.

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Exhibit R-2 (PE 0605807F)

RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	
Related RDT&E: (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization) (U) PE 0604256F, Threat Simulator Development (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)	I modernization) ments for new tri-service test capabilities)	
(U) D. Schedule Profile: Not applicable.		
Pag	Page 3 of 18 Pages Exhi	Exhibit R-2 (PE 0605807F)
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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	R-2 Exhi	bit)		DATE Fol	February 1997	207
RI IDGET ACTIVITY								5	Juary .	100
6 - Management and Support			960 1000	PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	Evaluatic	on Spt			PROJECT 06TS
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06TS Test and Evaluation Support (1)	317,370*	306,651*	367,175	366,258	372,737	359,309	369,955		383,416 Continuing	TBD
Quantity of RDT&E Articles	NA	N	N	N	Z V	Ž	A A	NA		
(1) FV08 requirements and finalism in success 1 cm	- F									

construction requirements formerly identified in projects 06MR and 06MC, respectively. Likewise, all content in PE 0605896F (RDT&E Base Operations Support) funding (FYs 98-03) are now reflected in this project for FY98-03 (formerly in project 06AS). The cumulative effect of these changes carves out test from non-test, that was more accurately identified as test support has been transferred to this project effective starting in FY98. In addition, all aircraft support requirements and (1) FY98 requirements and funding increased for Test and Evaluation Support, project 06TS, to reflect a transfer of test mission maintenance and repair and minor aligns test vs non-test requirements in their appropriate PEs, and shows a more accurate accounting for both test support and base support functions. * This R-2's FY96/97 project totals (shown above) are correct. Due to an administrative error, the automated budget submission has incorrect project allocations in FY96 (\$324,612) and FY97 (\$279,874).

accordance with BRAC 95 direction. (3) Air Force Development Test Center (AFDTC), located at Eglin AFB, FL, whose test infrastructure overhead supports development civilian salaries; temporary duty travel; support contract costs for hardware and software engineering and maintenance; and minor improvement and modernization projects. (U) A. Mission Description and Budget Item Justification: This project provides resources to operate the Air Force test activities which are included in the Department includes the USAF Test Pilot School. AFFTC's adjunct operation of the Utah Test and Training Range (UTTR) in Northwest Utah transfers to ACC (effective 1 Oct 97) in of Defense (DoD) Major Range and Test Facility Base (MRTFB). Test facilities/capabilities operated through this program include wind tunnels, rocket and jet engine test stocks; maintenance, repair, and replacement of worn or obsolete test equipment and facilities; test infrastructure for data collection, transmission, reduction, and analysis; It also funds overhead test aircraft depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots assistance; and assorted ground support equipment overhauls. Three major Air Force test centers are supported by this project: (1) Arnold Engineering and Development testing of non-nuclear air armaments (including aircraft guns, ammunition, bombs, and missiles). AFDTC provides a scientific test process that supports the development development and operational test and evaluation for aircraft, aircraft subsystems and aircraft weapon systems, aerospace research vehicles, unmanned miniature vehicles, world (includes transonic, supersonic, and hypersonic wind tunnels; rocket motor and turbine engine test cells; space environmental test chambers, hyperballistic ranges; Center (AEDC), located at Arnold Air Force Base, TN, whose test infrastructure overhead supports operations for the largest complex of ground test facilities in the free cells, limited space environmental simulation chambers, armament test ranges, climatic test facilities, avionics test facilities, aircraft testbeds, dry lakebed landing sites, for update/inspection; modifications and any other depot level repairs required by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area instrumented test ranges, and test aircraft maintenance. T&E Support funds test infrastructure overhead activities including: Command and supervisory staffs; supply and other specialized facilities). (2) Air Force Flight Test Center (AFFTC), located at Edwards AFB, CA, whose test infrastructure overhead supports weapons system cruise missiles, parachute delivery/recovery systems, cargo handling systems, and Electronic Warfare (EW) systems for DoD and allied forces. The AFFTC mission and enhancement of munitions systems.

Project 06TS

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Exhibit R-2 (PE 0605807F)

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RDT	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	d Support	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	PROJECT 06TS
(U) FY 1996 (\$ in Thousands)	<u>vusands)</u>		
- (U) \$107,217	Arnold Engineering and Development Center Continued test infrastructure overhead support to en JDAM, F-15, F-16, JSF, B-1B, B-2, C-130, AMRAA Airconft Madification Directorate	Arnold Engineering and Development Center Continued test infrastructure overhead support to enable ground testing for classified programs, and unclassified programs (F-22, IDAM, F-15, F-16, ISF, B-1B, B-2, C-130, AMRAAM, AIM 9X, Minuteman, EELV, Titan IV and F-18).	classified programs (F-22, 18).
- (U) \$3,600	Funded indirect labor and supporting expenses (training, travel, office supplies, etc.) and support services required for the Developmental Manufacturing and Modification Facility (DMMF) mission.	ning, travel, office supplies, etc.) and support service cility (DMMF) mission.	ces required for the
- (U) \$106,924	AIT FORCE FIIGHT LEST CENTER Continued to provide test infrastructure overhead su 17, ATIC, ARIA, SMILS, ECCM, EW (B-1B ALQ)	AIF FORCE FIIGHT LEST CENTER Continued to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C- 17, ATIC, ARIA, SMILS, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.) and classified programs.	5, F-15E, F-22, AFTI/F-16, C- nd classified programs.
- (U) \$18,000	USAF Test Pilot School operating costs. Air Force Development Test Center)
- (U) \$69,891	SEER SEAGLE, TMD, JASSM, AGM 130, IDL, OFP, SEER, SEAGLE, TMD, JASSM, AGM 130, IDL, OFP, SEER SEAGLE, TMD, JOSSM, AGM 130, IDL, OFP, SEER SEAGLE, TMD, JSOW, JSOW, JSOW, ASTARS, F15-TEWS, etc.); C41 (JTIDS, AWACS, BISS, AFMSS), and	on-nuclear air armaments (AMRAAM, WCMD, JA: TARS, F15-TEWS, etc); C4I (JTIDS, AWACS, BI:	ASSM, AGM 130, IDL, OFP, ISS, AFMSS), and
- (U) \$2,163	Team obsument of the Community of the Co	amming.	
- (U) \$175 - (U) \$9,400 - (U) \$317,370	Other Support Support for DoD Vision 21 consolidation study Financial Reporting Support: Provided funding fron Total	sion 21 consolidation study Support: Provided funding from Defense Business Operating Fund (DBOF) for T&E financial reporting.	&E financial reporting.
Project 06TS	Pag	Page 5 of 18 Pages Ex	Exhibit R-2 (PE 0605807F)

RDT	RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1007
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605807F Tact And Evaluation Cat	PROJECT
(U) FY 1997 (\$ in Thousands	ousands)	coccor i est Aild Evaluation Spt.	S190
- (U) \$107,801	Arnold Engineering and Development Center Continued test infrastructure overhead support to ena 15, F-16, JSF, B-1B, B-2, C-130, AMRAAM, AIM 9 Aircraft Modification Discrete	Arnold Engineering and Development Center Continued test infrastructure overhead support to enable ground testing for classified programs, and unclassified programs (F-22, JDAM, F-15, ISF, B-1B, B-2, C-130, AMRAAM, AIM 9X, Minuteman, EELV, Titan IV and F-18).	ssified programs (F-22, JDAM, F-
– (U) \$ 2,900	Fund indirect labor and supporting expenses (training mission.	Fund indirect labor and supporting expenses (training, travel, office supplies, etc.) and support services required for the aircraft modification mission.	quired for the aircraft modification
- (U) \$97,788	Air Force Flight Test Center Continue to provide test infrastructure overhead supp	Air Force Flight Test Center Continue to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C-17, ATIC,	15E, F-22, AFTI/F-16, C-17, ATIC,
- (U) \$18,600	USAF Test Pilot School operating costs.	DOSAF Test Pilot School operating costs.	
- (U) \$69,212	Arr Force Development Test Center Continued test infrastructure overhead support for non-nuclear a etc.); C4I (JTIDS, BISS, TMD), and aircraft software upgrades.	AIF Force Development Test Center Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, SEEK EAGLE, TMD, JDAM, JSOW, WCMD, etc.); C41 (JTIDS, BISS, TMD), and aircraft software upgrades.	E, TMD, JDAM, JSOW, WCMD,
- (U) \$9,900 - (U) \$ 450 - (U) \$306,651	Financial Reporting Support Provide funding for Defense Business Operating Fund (DBOF) DFAS financial reporting. Federal Workforce Restructuring Act (FWRA) payment Total	d (DBOF) DFAS financial reporting.	
(U) FY 1998 (\$ in Thousands):	usands):		
- (U) \$115,038	Arnold Engineering and Development Center Continued test infrastructure overhead support to enable ground testing for classified programs, and unclassified programs (F-22, JDAM, F-15, F-16, JSF, B-1B, B-2, C-130, AMRAAM, AIM 9X, Minuteman, EELV, Titan IV and F-18). Begin test infrastructure overhead support	ole ground testing for classified programs, and unclask, Minuteman, EELV, Titan IV and F-18). Begin tes	ssified programs (F-22, JDAM, F-st infrastructure overhead support
- (U) \$ 29,253	Not 1 unnel 9 that was transferred from the Navy to the USAF effective 1 Oct 97. Maintenance, repair and minor construction for test infrastructure requirements. Air Force Flight Took Conter.	: USAF effective 1 Oct 97. frastructure requirements.	
- (U) \$103,166	Continue to provide test infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C-17, ATIC, ARIA, ECCM, EW (R-1B, A10-161, F-16, ANIA S0-213, C-120, A10, 323, 243, 243, 243, 243, 243, 243, 243	ort enabling testing of the B-1B, B-2, F-16, F-15, F-1	5E, F-22, AFTI/F-16, C-17, ATIC,
- (U) \$18,900 - (U) \$12,878	USAF Test Pilot School operating costs. Programmed Depot Maintenance and engine overhauls for aircraft assigned to AFFTC.	stor aircraft assigned to AFFTC.	
	Maintenance, repair and minor construction for test infrastructure requirements. Air Force Development Test Center	frastructure requirements.	
- (U) \$70,536	Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, SEEK EAGLE, TMD, JDAM, JSOW, WCMD, etc.); C4I (JTIDS, BISS, TMD), and aircraft software upgrades.	-nuclear air armaments (AMRAAM, SEEK EAGLE, upgrades.	, TMD, JDAM, JSOW, WCMD,
Project 06TS	Page	ıges	Exhibit R-2 (PE 0605807F)

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibi	æ	DATE CAPTIONS 4007	
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE 0605807F Test And Evaluation Sot	aluation Sp	PROJECT PROJECT	<u>ت</u> د
- (U) \$ 2,759 - (U) \$ 9,518 - (U) \$367,175	Programmed Depot Maintenance and engine overhauls for aircraft assigned to AFDTC. Maintenance, repair and minor construction for test infrastructure requirements. Total	overhauls for aircraft ass or test infrastructure req	igned to AFDTC irements.			
(U) FY 1999 (\$ in Thousands): Arnole - (U) \$117,828 Contin 15, F-1 - (U) \$29,812 Mainte	l Engineering ued test infras 6, JSF, B-1B, nance, repair	to enable ground testin AIM 9X, Minuteman, E or test infrastructure reon	g for classiffed pr ELV, Titan IV ar irements.	ograms, and und nd F-18). Conti	s and Development Center tructure and testing for classified programs, and unclassified programs (F-22, JDAM, F B-2, C-130, AMRAAM, AIM 9X, Minuteman, EELV, Titan IV and F-18). Continue Tunnel 9 infrastructure support and minor construction for test infrastructure requirements.	μ.
- (U) \$104,224 - (U) \$19,200	Air Force Flight Test Center Continue to provide test infrastructure overhead support enabling testing of the B ARIA, ECCM, EW (B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), USAF Test Pilot School operating costs.	ad support enabling testi	ng of the B-1B, E -172, etc.),	-2, F-16, F-15, l	st Center lest infrastructure overhead support enabling testing of the B-1B, B-2, F-16, F-15, F-15E, F-22, AFTI/F-16, C-17, ATIC, B-1B ALQ-161, F-16 AN/ASQ-213, C-130 ALQ-172, etc.), ool operating costs.	
- (U) \$11,218 - (U) \$5,275 - (U) \$66,481 - (U) \$ 2,632	Programmed Depot Maintenance and engine overhauls for aircraft assigned to AFFTC. Maintenance, repair and minor construction for test infrastructure requirements. Air Force Development Test Center Continued test infrastructure overhead support for non-nuclear air armaments (AMRAAM, SEEK EAGLE, TMD, JDAM, JSOW, WCMD, etc.); C4I (JTIDS, BISS, TMD), and aircraft software upgrades. Programmed Depot Maintenance and engine overhauls for aircraft assigned to AEDTC	werhauls for aircraft ass retest infrastructure requestors in the second result of the second retest and retest are retested as second retests.	irements. aments (AMRAA	M, SEEK EAG	LE, TMD, JDAM, JSOW, WCMD	
- (U) \$ 9,588 Maintenance, repair and mi - (U) \$366,258 Total (U) B. Program Change Summary (\$ in Thousands):	Maintenance, repair and minor construction for test infrastructure requirements. Total ummary (\$ in Thousands):	r test infrastructure requ	gred to AFDIC.			
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value 	dget 317,370 iated Value	ቸ ፎ ፎ	<u>FY 1998</u> 322,541	FY 1999 317,638	Total Cost Cont	
a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB a. DBOF Financial Services (DFAS) Realignmen b. Test support aircraft realignment from proj 06 c. Test support content from PE 0605896F d. Tunnel 9 transfer from Navy effective FY98	a. Congressional Adjustments Adjustments to Budget Years Since FY 1997 PB DBOF Financial Services (DFAS) Realignment D. Test support aircraft realignment from proj 06AS C. Test support content from PE 0605896F d. Tunnel 9 transfer from Navy effective FY98	-7,450	-44,634 -9,900 13,137 20,633 4,000	-48,620 -9,900 13,850 20,740 4,000		
Project 06TS		Page 7 of 18 Pages		Ď	Exhibit R-2 (PE 0605807F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHEET (R-2 Exhib	1€	DATE	100
BUDGET ACTIVITY 6 - Management and Connect		PE NUMBER AND TITLE	о тітсе		repruary 1997	PROJECT
o - management and oupport		0605807F	Test And E	0605807F Test And Evaluation Spt		06TS
e. Test support M&R/MC from 06MR & 06MC f. Utah Test/Training Range transfer to ACC	FY 1996	FY 1997	FY 1998 28,583	FY 1999 25,663	Total Cost	
g. Misc adjustments (U) Current Budget Submit/President's Budget	317,370	306,651	367,175	-1,863 -3,848 366,258	Cont	
Project 06TS	Page	Page 8 of 18 Pages		Exhi	Exhibit R-2 (PE 0605807F)	
		1200				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support 10605807F Test And Evaluation Spt	
Beginning in FY98, all test support mission requirements and their associated funding are consolidated in projects 06TS and 06TG of PE 0605807F. All test support aircraft requirements and funding were realigned to 06TS for FY98-03 (formerly in project 06AS for FYs 96 and 97). Also consolidated in project support aircraft requirements and funding were realigned to 06TS for FY98-03 (formerly in project 06AS for FYs 96 and 97). Also consolidated in project of the test facility maintenance, repair and minor construction requirements formerly funded in projects 06MR and 06MC. Those two projects captured both test and non-test requirements in FYs 96 and 97. Beginning in FY98, the non-test maintenance and repair and minor construction requirements (i.e., in support of non-test general installation infrastructure such as dormitories, general purpose buildings) were transferred to PE 0605878 (Maintenance and Repair) and PE 0605876F (Minor Construction), respectively, thus carving out the non-test requirements and placing them in PEs whose nomenclature mirrors the rest of the Air Force's base support functions. In addition, approximately \$20M each year across the FYDP from PE 0605896F (Base Operations Support) was deemed test related content and therefore transferred to this project starting in FY98. The Navy's Tunnel 9 operation becomes Air Force responsibility effective 1 Oct 97. The Utah Test and Training Range mission and funding transfers from this project to Air Combat Command (O&M funding) effective 1 Oct 97 in accordance with BRAC 95 direction.	06TS and 06TG of PE 0605807F. All test 96 and 97). Also consolidated in project d in projects 06MR and 06MC. Those two nce and repair and minor construction ldings) were transferred to PE 0605878 irements and placing them in PEs whose ir across the FYDP from PE 0605896F (Base Navy's Tunnel 9 operation becomes Air project to Air Combat Command (O&M
Schedule: None.	
Technical: None.	
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	
Related RDT&E: (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization) (U) PE 0604256F, Threat Simulator Development (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)	
(U) D. Schedule Profile: Not applicable.	

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Project 06TS

RDT&E BUDGET IT	TEM JUS	TIFICA	TION SI	EM JUSTIFICATION SHEET (R-2 Exhibit)	१-2 Exhi	bit)		DATE Fet	February 1997	266
6 - Management and Support			PE N 06(PE NUMBER AND TITLE 0605807F Test	TITLE est And	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	on Spt			PROJECT 06AS
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06AS Aircraft Support (2)	12,294*	11,899	0	0	0	0	0	0	0	OBT
Quantity of RDT&E Articles	NA	ΥN	AN	Ν	٩N	AN AN	Υ _Z	A N		
(U) A. Mission Description and Budget Item Justification: The RDT&E aircraft support program provides resources for maintaining Air Force Materiel Command (AFMC) assigned test and test support coded aircraft whose flying missions support the Department of Defense Major Range and Test Facility Base (MRTFB). This program supports a multitude of mission designs and configurations, with many prototype, preproduction, and extensively modified/instrumented one-of-a-kind aircraft. Funds pay for overhead test infrastructure depot level maintenance such as: Programmed Depot Maintenance (PDM), the calendar-based cyclic scheduling of aircraft into depots for update/inspection; modifications and any other depot level repairs requirement by the aircraft System Program Directors (SPD); engine overhauls; depot-provided area assistance; and assorted ground support equipment overhauls. Aircraft Support requirements and funding moved to Test and Evaluation Support, project 06TS, for FYs 98-03. This change eliminates the misunderstanding that Aircraft Support requirements are independent of Test and Evaluation Support—they are dependent on one another, contribute to the same mission, and operate under the same reimbursable guidelines.	ustification: aft whose flyi and configurat vel maintenan y other depot ment overhau ng that Aircra te under the ss	The RDT&I ng missions ions, with m ice such as: level repairs ls. Aircraft ? ft Support re	tification: The RDT&E aircraft support the whose flying missions support the Depa I configurations, with many prototype, per maintenance such as: Programmed De other depot level repairs required by the ent overhauls. Aircraft Support requiren i, that Aircraft Support requirements are i under the same reimbursable guidelines.	port prograr. Department De, preprodut d Depot Mai the aircraft iirements an are independ	n provides raction, and extraction, and extraction, and extraction of System Programment of funding malent of Test a	esources for Adjor Range tensively mo DM), the calk gram Directol oved to Test and Evaluatic	maintaining and Test Fa deified/instr. endar-based rs (SPD); en and Evaluat m Support—	Air Force M cility Base (h mented one- cyclic schedi gine overhau ion Support,	ateriel Com MRTFB). T of-a-kind al uling of airc uls; depot-pr project 06T	mand his ircraft. raft into ovided S, for FYs
* This R-2's FY96 project total (shown above) is correct. Due to an administrative error, the automated budget submission has an incorrect total (\$14,156) in FY96.	correct. Due to	o an adminis	trative error	, the automa	ted budget sı	ubmission ha	ıs an incorre	ct total (\$14,	156) in FY9	.90
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$12,294 Perform PDM and engine overhauls (U) \$12,294 Total	ngine overhau	<u>સ</u>					·			
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$11,899 Perform PDM and engine overhauls (U) \$11,899 Total	ngine overhau	<u>'S'</u>								

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(U) <u>FY 1998 (\$ in Thousands):</u>
- (U) \$0 Not applicable.

(U) <u>FY 1999 (\$ in Thousands):</u>
- (U) \$0 Not applicable.

Project 06AS

Exhibit R-2 (PE 0605807F)

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	£	DATE Februa	February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605807F Test	D TITLE Test And Ev	PE NUMBER AND TITLE O605807F Test And Evaluation Spt		PROJECT 06AS
(U) B. Program Change Summary (S in Thousands):	EV 1006	EV 1007	EV 1000	000 A	Total	
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	12,294	12,161 12,161 12,161 -262	13,137	13,850	Cont	
 a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	12,294	-262 11,899	-13,137 0	-13,850	Cont	
(U) Change Summary Explanation: Funding: FYs 98-03 reflect a zero balance because aircraft support requirements and funding were transferred to T&E Support, project 06TS.	craft support requi	rements and fund	ing were transfer	red to T&E Suppo	rt, project 06TS.	
Schedule: None.						
Technical: None.						
(U) C. Other Program Funding Summary (\$ in Thousands	in Thousands): Not applicable.					
Related RDT&E: (U) PE 0604759F, Major T&E Investment (Technical capability improvement and modernization) (U) PE 0604256F, Threat Simulator Development (U) PE 0604940D, Central Test & Evaluation Improvement Program (T&E investments for new tri-service test capabilities)	y improvement an ogram (T&E inves	rd modernization) stments for new to	i-service test cap	abilities)		
(U) D. Schedule Profile: Not applicable.						
Project 06AS	Pag	Page 11 of 18 Pages		â	Exhibit R-2 (PE 0605807F)	07F)

1203

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	UDGET IT	EM JUS	TIFICAT	IS NOIL	HEET (R	-2 Exhi	bit)		DATE	Tob., 4007	201
BUDGET ACTIVITY 6 - Management and Support	oort			PE NI 060	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	गापट est And l	Evaluatio	on Spt			PROJECT
COST (\$ In Thousands)	(spu	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06MC Minor Construction (3)		3,838*	3,640	0	0	0	0	0	0	0	TBD
Quantity of RDT&E Articles		NA	NA	A	ď.	N A	A A	AN	NA		
(1) Approximately 50% of FY98-03 content and f alignment of resources for non-test, common be specifically as test mission support requiremen	s content and furest, common ba	nding for Mise operation and accordi	unding for Minor Construction, project 06MC, ase operations support functions at Arnold, Eg ts and accordingly transferred to project 06TS.	ction, projections at Ar	funding for Minor Construction, project 06MC, were transferred to PE 0605876F. This transfer provides better focus and base operations support functions at Arnold, Eglin and Edwards AFBs. The other 50% of content was identified its and accordingly transferred to project 06TS.	re transferre	d to PE 0605 3 AFBs. The	876F. This other 50%	transfer pro of content w	vides better vas identified	ocus and
* This R-2's FY96 project total (shown above) is correct. Due to an administrative error, the automated budget submission has an incorrect total (\$3,588) in FY96.	wn above) is co	rect. Due to	an administ	rative error,	, the automat	ed budget su	ıbmission ha	s an incorre	ct total (\$3,5	588) in FY96	
(U) A. Mission Description and Budget Item Justification: This project provides essential minor construction at three AFMC installations: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over four thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road network; utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines.	idget Item Just sical plant maint feet; over five m	ification: T ained by this illion square of high volta	his project p s account cov yards of air ige electrical	rovides esse vers 800,000 field pavem distribution	ential minor of acres of landent; 1900 milent; 1900 milens.	construction id; over four iles of road n	at three AFN thousand str ietwork; utili	MC installati uctures in e ity systems i	ions: Eglin / xcess of 30 y that include	AFB FL, Edv years old 120 wells, 10	vards) sewage
(U) <u>FY 1996 (\$ in Thousands):</u> – (U) \$3,838 Finance airman	sands): Financed in-house work performed by government employees (to include supplies, materials and equipment). Financed construction of airman leadership school and classroom (2nd building), explosive ordnance disnoral facility and performance of the most existing ming.	k performed ol and classr	by governm oom (2nd bu	ent employa ilding), exp	ees (to includosive ordna	fe supplies, 1	materials and Facility and	d equipment). Financed	construction	jo
constru (U) \$3,588 Total	construction at the three MRTFBs. Total	e MRTFBs.	•								
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$3,640 Finance Resourd	<u>usands):</u> Finance in-house work performed by government employees (to include supplies, materials and equipment). Finance construction of Human Resource Development Computer I aboratory, replace planting second system transformers and equipment).	performed t	y governme	nt employee	es (to include	supplies, m	aterials and	equipment).	Finance co	enstruction of	Human
system – (U) \$3,640 Total	system substation; and finance addition to equipment research laboratory and provide additional well reservoir. Total	finance addi	tion to equip	ment resear	rch laborator	y and provid	ninci anu au le additional	well reserve	cuit oreaker jir.	to pienum es	cape
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 Not applicable.	licable.										
(U) <u>FY 1999 (\$ in Thousands):</u> — (U) \$0 Not applicable.	licable.										
Project 06MC			7	Page 12 of 18 Pages	18 Pages			Exhibi	Exhibit R-2 (PE 0605807F)	605807F)	
				1001							

1204

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605807F Test	D TITLE Test And E	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	PROJECT 06MC
(U) B. Program Change Summary (\$ in Thousands):					Total
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	<u>FY 1996</u> 3,588	FY 1997 3,717 3,717	<u>FY 1998</u> 3,893	<u>FY 1999</u> 4,084	Cont
 a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	3,588	3,640	-3,893	-4,084 0	Cont
(U) Change Summary Explanation: Approximately 50% of FY98-03 content and funding for Minor Construction, project 06MC, alignment of resources for non-test, common base operations support functions at Arnold, Eg specifically as test mission support requirements and accordingly transferred to project 06TS.	linor Construction is support function lingly transferred	, project 06MC, v ns at Amold, Egli to project 06TS.	were transferred ≀ in and Edwards ∕	.o PE 0605876F. T AFBs. The other 50	funding for Minor Construction, project 06MC, were transferred to PE 0605876F. This transfer provides better focus and base operations support functions at Arnold, Eglin and Edwards AFBs. The other 50% of content was identified ants and accordingly transferred to project 06TS.
Schedule: None.					
Technical: None.					
(U) C. Other Program Funding Summary (S in Thousands)	in Thousands): Not applicable.				
(U) D. Schedule Profile: Not applicable.					
Project 06MC	Pag	Page 13 of 18 Pages		ĒX	Exhibit R-2 (PE 0605807F)

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RDT&E BUDGET IT	EM JUS	TIFICA	TION SE	LEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	26
BUDGET ACTIVITY 6 - Management and Support			PE NI 0 0 0	PE NUMBER AND TITLE 0605807F Test	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	Evaluatic	on Spt			PROJECT 06MR
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06MR Maintenance and Repair (4)	81,588*	72,557	0	0	0	0	0	0	0	ТВО
Quantity of RDT&E Articles	NA	NA	NA	NA	NA	NA	NA	NA		

(1) Approximately 75% of FY98-03 content and funding for Maintenance and Repair, project 06MR, were transferred to PE 0605878F. This transfer provides better focus and alignment of resources for non-test, common base operations support functions at Arnold, Eglin and Edwards AFBs. The other 25% was identified specifically as test facility maintenance and repair requirements and were accordingly transferred to project 06TS.

* This R-2's FY96 project total (shown above) is correct. Due to an administrative error, the automated budget submission has an incorrect total (\$85,865) in FY96.

increases represent an Air Force corporate decision to implement a new initiative to measure and improve facility conditions: the Commander's Facility Assessment (CFA). utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines. Beginning in FY 96, the (U) A. Mission Description and Budget Item Justification: This project provides essential Real Property Maintenance and Repair at three AFMC Bases whose host units are MRTFB activities: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over four commanders have unanimously endorsed CFA as the best way to determine and address mission impacts due to facility deficiencies. The program increases represent a thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road network; CFA puts a "readiness face" on real property maintenance requirements by having commanders at all levels assess their facility's condition and its impact on mission accomplishment. Facilities are assessed as either Level 1 (Unsatisfactory - minimal mission support) or Level 2 (Degraded - impaired mission support). The field concerted effort to fund the majority of the Level 1 requirements with a particular emphasis on operational facilities and base infrastructure.

(U) FY 1996 (\$ in Thousands) Planned Program:

Financed in house work force.

Repaired heat exchangers in engine test facility, 26,500 hp rotor and starter, process air valve, liquid rheostats and water manifolds, and installed EMC and SCADA systems.. - (U) \$12,889

Repaired various water and sewer lines, dorms, circuit breakers, asbestos abatement, seismic studies, and various roofs. - (U) \$10,834

Commander's Facility Assessment (CFA) requirements necessary to repair "unsatisfactory" conditions. - (U) \$6,712

Hurricane Opal damage recovery (Omnibus Funding) - (U) \$16,300

- (U) \$81,588

(U) FY 1997 (\$ in Thousands) Planned Program:

Finance in-house work force. - (U) \$38,445

Project 06MR

1206

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Exhibit R-2 (PE 0605807F)

RDT	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibi	Ē.	DATE February 1997	76
BUDGET ACTIVITY 6 - Management and Support	Support	PE NUMBER AND TITLE 0605807F Test	ю тпте Test And Ev	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt		PROJECT 06MR
- (U) \$13,225 - (U) \$12,350 - (U) \$8,537 - (U) \$72,557	Repair refrigerant insulation, rotor discs, gaseous helium refrigerators, heaters in air processing system and water control valves. Repair various roads, underground cable, HVAC (heating, ventilation and air conditioning), airfield pavement, electrical distribution lines, and asbestos abatement, seismic studies, and re-roof buildings. CFA exercise identified requirements necessary to repair "unsatisfactory" conditions.	ous helium refrigerator AC (heating, ventilatio e-roof buildings. y to repair "unsatisfac	s, heaters in air p n and air conditio tory" conditions.	rocessing system aning), airfield pav	and water control valves. ement, electrical distribution	ines,
(U) FY 1998 (\$ in Thousands) - (U) \$0 Not ap	<u>usands):</u> Not applicable,					
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$0 Not app	<u>usands):</u> Not applicable.					
(U) B. Program Change Summary (\$ in Tho	ummary (\$ in Thousands):					
(U) Previous President's Budget (U) Appropriated Value	FY 1996 idget 69,565	딥	FY 1998 75,898	FY 1999 77,524	Total <u>Cost</u> Cont	
(U) Adjustments to Appropriated vatue a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	rfated value stments Years Since FY 1997 PB President's Budget 81,588	-1,565 -1,565 8 72,557	-75,898 0	-77,524 0	Cont	
(U) Change Summary Explanation: Approximately 75% of FY9 focus and alignment of reso specifically as test facility m	8-03 content urces for nor taintenance a	ce and Repair, project ons support functions were accordingly tran	06MR, were tran at Arnold, Eglin a sferred to project	sferred to PE 060 ind Edwards AFB 06TS.	and funding for Maintenance and Repair, project 06MR, were transferred to PE 0605878F. This transfer provides better 1-test, common base operations support functions at Arnold, Eglin and Edwards AFBs. The other 25% was identified and repair requirements and were accordingly transferred to project 06TS.	better ed
Schedule: None.						
Technical: None.						
(U) C. Other Program Funding Summary (S	nding Summary (\$ in Thousands): Not applicable.	able.				
(U) D. Schedule Profile: Not applicable.	fot applicable.					
Project 06MR		Page 15 of 18 Pages		E	Exhibit R-2 (PE 0605807F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PENUMBER AND TITLE 0605807F Test And Evaluation Spt	TITLE est And	Evaluatic	on Spt			PROJECT 06TG
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06TG 46 Test Group	21,364*	20,154*	22,173	23,269	23,661	23,285	26,124	}	27,104 Continuing	TBD
Quantity of RDT&E Articles	ΑN	AN	AN	NA	NA	NA	AN	NA		
(I) A. Mission Description and Budget Item Ju	ustification: This project funds test infrastructure overhead support including: Command and supervisory staffs: supply	This project	funds test in	frastructure	overhead sur	poort includi	ng: Commar	nd and suner	visory etaffe	Vinnis.

analysis; civilian salaries, utilities, temporary duty travel, support contract costs for hardware and software engineering and maintenance. Project infrastructure support is provided for the unique capabilities of the 46th Test Group facilities: the High Speed Test Track (HSTT), Central Inertial Guidance Test Facility (CIGTF), and the Radar stocks; upkeep, refurbishment, repair, and replacement of non-repairable or obsolete test equipment; test infrastructure for data collection, transmission, reduction, and Target Scatter (RATSCAT) facility. * This R-2's FY96/97 project totals (shown above) are correct. Due to an administrative error, the automated budget submission has incorrect totals in FY96 (\$8,233) and FY97 (\$46,931).

(U) FY 1996 (\$ in Thousands) Planned Program:

aircraft navigation systems, including B-2, missile and munitions navigation systems for Trident and JDAM, F-22, and static RCS testing for Provided infrastructure test support for programs such as AICON, IRCM, Peacekeeper, THAAD, F-111, Sparrow, Corps SAM, Standard Missile II, Patriot III, GPS jamming and spoofing, FAA Wide Area Augmentation System, GPS integrated and imbedded INS programs, QF-4, JDAM, ATACMS, CCV and low observable testbeds; and initiated acquisition of special avionics to support GPS integration and - (U) \$21,364

testing. - (U) \$21,364 Total

(U) FY 1997 (\$ in Thousands) Planned Program:

System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA Wide Area Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems, including B-2 and F-22, missile and Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, PAC-3 LFT&E, JPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 munitions navigation systems for Trident and JDAM, and static RCS testing for stores, low observable testbeds, and other classified programs. - (U) \$20,154

- (U) \$20,154 Total

Project 06TG

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Exhibit R-2 (PE 0605807F)

RDT&E BUDGET ITEM JU	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	Ð	DATE February 1997
вирбет астилту 6 - Management and Support		PE NUMBER AND TITLE 0605807F Test	Test And Ev	PE NUMBER AND TITLE OG05807F Test And Evaluation Spt	PROJECT 06TG
 (U) <u>FY 1998 (\$ in Thousands)</u>. (U) \$22,173 Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2 PAC-3 LFT&E, JPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA W Area Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems, including B-2 and F-22, missile a programs. (U) \$22,173 Total 	t for programs such ystem, THAAD LF 1 GPS-JPO RTO res integrated and eml Trident and JDAM	as AICON, F-22 T&E, Directed In ponsibilities, Pro pedded INS progi , and static RCS	A escape system nfrared Countern ject 2000 integra rams, aircraft nav testing for stores	, 4th Generation reasures (DIRCM tion support, GP? rigation systems, low observable i, low observable in the control of the co	Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, PAC-3 LFT&E, IPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA Wide Area Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems, including B-2 and F-22, missile and munitions navigation systems for Trident and JDAM, and static RCS testing for stores, low observable testbeds, and other classified programs.
 (U) FY 1999 (\$ in Thousands): (U) \$23,269 Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2 (U) \$23,269 PAC-3 LFT&E, IPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA Warea Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems for Trident and JDAM, and static RCS testing for stores, low observable testbeds, and other classified programs. (U) \$23,269 	t for programs such iystem, THAAD LF I GPS-JPO RTO res integrated and eml	as AICON, F-22 T&E, Directed II ponsibilities, Pro bedded INS progi , and static RCS	A escape system nfrared Countern ject 2000 integra rams, aircraft nav testing for stores	t, 4th Generation neasures (DIRCIV tion support, GPS igation systems, low observable;	Provide infrastructure test support for programs such as AICON, F-22A escape system, 4th Generation Ejection Seat, Standard Missile 2, PAC-3 LFT&E, JPATS Escape System, THAAD LFT&E, Directed Infrared Countermeasures (DIRCM), SOF DIRCM and AN/AAR44 System improvements, continued GPS-JPO RTO responsibilities, Project 2000 integration support, GPS jamming and spoofing, FAA Wide Area Augmentation System, GPS integrated and embedded INS programs, aircraft navigation systems, including B-2 and F-22, missile and munitions navigation systems for Trident and JDAM, and static RCS testing for stores, low observable testbeds, and other classified programs.
(U) B. Program Change Summary (\$ in Thousands):					Total
(U) Previous President's Budget (U) Appropriated Value	FY 1996 21,364	FY 1997 21,094 21,094	FY 1998 21,555	FY 1999 22,227	Cont
(U) Adjustments to Appropriated Value a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	21,364	-940 -940 20,154	618 22,173	1,042 23,269	Cont
Project 06TG	Page	Page 17 of 18 Pages		W)	Exhibit R-2 (PE 0605807F)
		1209			

RDT&E BUDGET ITEM JUSTIFICATION	'EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605807F Test And Evaluation Spt	PROJECT 06TG
(U) Change Summary Explanation: Funding: Misc adjustments.		
Schedule: None.		
Technical: None.		
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.		
(U) D. Schedule Profile: Not applicable.		
Project 06TG	Page 18 of 18 Pages Exhib	Exhibit R-2 (PE 0605807F)

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PE NUMBER: 0605808F

UNCLASSIFIED

PE TITLE: Development Planning

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	2 Exhi	bit)		DATE Fel	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NI 0 6 0	PE NUMBER AND TITLE 0605808F Deve	ritle J evelopm	PE NUMBER AND TITLE 0605808F Development Planning	ning		9 E	Р ROJECT 3361
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3361 Mission & System Planning	6,437	6,194	6,049	6,197	5,871	6,028	6,149	6,316	6,316 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

These deficiencies must relate directly to assigned Air Force operational roles, missions, and supporting tasks that cannot be performed efficiently or in a cost effective or present new technological opportunities. Non-materiel alternatives include doctrine, tactics, training, and organizational changes. Materiel alternatives will include manner. Second, a Mission Needs Analysis (MNA) is conducted to identify potential cost effective, non-materiel and materiel alternatives that address the deficiency, substantiate current operational deficiencies through the Air Force Modernization Planning Process. This PE supports this process and has a substantial impact on Air supporting acquisition milestone documentation include MAAs, MNAs, and Mission Need Statements (MNS). Phase 0 concepts studies and Analysis of Alternatives (AOAs) are not normally conducted in this program element. This program is in budget activity 6 - Management Support, Research Category 6.5 because the efforts perform operational requirements studies and analyses directed in support of assigned mission areas and mission area plans. Studies are competitively selected on a Force acquisitions prior to Milestone 0 decisions. First, a Mission Area Assessment (MAA) is conducted to identify tasks and substantiate operational deficiencies. modification and review of all existing DoD, Allied and non-developmental systems, or development of new systems. Operational requirements analyses and The Air Force is in compliance with the DoD 5000 series regulations which mandate that a full range of requirements analyses be conducted to identify and yearly basis. There is no unnecessary duplication of effort within the Air Force or DoD.

(U) FY 1996 (\$ in Thousands):

ت	(O) r I 1990 (a III I III Usalius).	. LIDUSAIUS);
1	- (U) \$719	Initiate MAP analysis support to Counterair, Strategic Attack/Interdiction, Theater Missile Defense, and Close Air Support MAPs.
'	- (U) \$965	Continue surveillance and reconnaissance mission area study to identify architecture alternatives to support the battlefield commander.
1	- (U) \$656	Initiate Standard Data Base Architecture study to identify and recommend a solution to C4I architecture and database deficiencies stated in the
		Air Force Special Operations Command MAPs, the Air Force Intelligence Functional Area Plan (FAP), the Air Force C4 FAP, and the Air Force
		Surveillance and Reconnaissance MAP.
1	- (U) \$380	Continue Air Education and Training Command mission areas throughput and resource allocation model development.
'	- (U) \$713	Continue Future Space Architectures (FSA) studies to support development of Air Force Space Command MAPs.
1	- (U) \$456	Initiate effort to adapt existing air mobility modeling and simulation tools to distributed interactive simulation (DIS) standards to support air
		mobility MAAs.
1	- (U) \$390	Initiate a study to determine modeling and simulation (M&S) requirements for Special Operations Forces missions and produce a list of existing
,		M&S tools that can be used as is or modified, or recommend other alternatives as required.
ı	- (U) \$1076	Complete MAA/MNA of Air Mobility Command's missions to identify requirements for a single, integrated command and control system.
•	- (U) \$238	Initiate studies on health and safety issues of non-lethal weapons to support AF Surgeon General functional area analysis and assessment.

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Project 3361

Exhibit R-2 (PE 0605808F)

	RD	RDT&E BUDGET ITEM JUSTIFICATIC	'EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
80008 6 - N	BUDGET ACTIVITY 6 - Management and Support	ind Support	PE NUMBER AND TITLE 0605808F Development Planning	9 3361
, , ,	- (U) \$625 - (U) \$219 - (U) \$6,437	Continue IDEF MAA/MNA of combat weather suppor Initiate study to support MNA for the Special Operatio Total	INA of combat weather support requirements for worldwide Air Force and Army missions. MNA for the Special Operations Forces Provide Mobility in Denied Territory mission area.	y missions. nission area.
۱	(U) <u>FY 1997 (\$ in Thousands):</u> (U) \$1057 Continue	surveillance ar	d reconnaiseance mission area study to identify architecture alternativae to surnort the hostlefald commandor	and the hottleffeld commendan
, ,	- (U) \$427 - (U) \$446	Initiate analysis of the Aeromedical Evacuation mission and environment during contingency operations. Continue effort to adapt existing air mobility modeling and simulation tools to distributed interactive sim	ecromedical Evacuation mission and environment during contingency operations. existing air mobility modeling and simulation tools to distributed interactive simulation (DIS) standards to support air	S. nuclearing the continuation of the continuation (DIS) standards to support air
1	- (U) \$56	mobility MAAs. Initiate effort to identify comprehensive measures of m	comprehensive measures of merit and effectiveness of space and missile systems to support analyses.	ns to support analyses.
	- (U) \$995 - (U) \$710	Initiate analytical baseline of life cycle cost of ownership of weapon systems to support Air Combat Command's (ACC) mission area planning. Continue study to support MNA for the Snecial Operations Porces Provide Mobility in Devied Territory mission area planning.	ip of weapon systems to support Air Combat Co	mmand's (ACC) mission area planning.
t		Initiate assessment of deficiencies in various fleet mixes of intratheater airlift aircraft and the impact of the deficiencies on a campaign.	ss of intratheater airlift aircraft and the impact of	the deficiencies on a campaign.
, 1		initiate errort to project sizing requirements for the communications pipeline to and from Alf Mobility Command bases and deployed sites. Initiate analysis of combat identification architectures to address correlating off-board sensor data with shooter on-board fire control data.	nmunications pipeline to and from Air Mobility (or address correlating off-board sensor data with	Command bases and deployed sites. shooter on-board fire control data.
	- (U) \$440 - (II) \$263	Initiate establishment of objective and quantifiable methodology to examine integrated warfighting concepts across ACC mission areas. Initiate development of a methodology to analyze and optimize airpower allocations within a theorem commission.	hodology to examine integrated warfighting con	cepts across ACC mission areas.
1		Initiate development of a family of optimized mixes of space and missile systems/concepts over a 25-year horizon.	space and missile systems/concepts over a 25-ye	npagn. ar horizon.
'	- (U) \$305	entification and	analysis of AF Medical Service casualty management requirements from future biowarfare or directed energy	e biowarfare or directed energy
ī	5	onry. nue Air Education a	and Training Command (AETC) mission areas throughput and resource allocation model development.	ion model development.
1	- (U) \$6,194	Total		
E	(U) FY 1998 (\$ in Thousands):	(housands):		
. 1	(U) \$490	Complete study to support MNA for the Special Opera	rt MNA for the Special Operations Forces Provide Mobility in Denied Territory mission area.	y mission area.
. 1	- (U) \$1375	minate entries to retainly opportunities to streaming, consolidate, and automate Ar Modernization Flamming processes. Continue surveillance and reconnaissance mission area study to identify architecture alternatives to support the battlefield commander.	onsolidate, and automate AF Modernization Fiar study to identify architecture alternatives to sup-	ning processes. oort the battlefield commander.
ı		Continue analysis of optimized space and missile capabilities, and force structure trades across all space Mission Areas.	oilities, and force structure trades across all space	Mission Areas.
1 1	- (U) \$700 - (U) \$1240	Initiate analysis of integration and interdependencies of land and sea transportation to allow determination optimal mix of mobility resources. Complete efforts to baseline and forecast operations and support, modernization and infrastructure costs for combat aircraft and training systems.	f land and sea transportation to allow determinati d support, modernization and infrastructure cost	on optimal mix of mobility resources. for combat aircraft and training systems.
1	_	Initiate efforts to strengthen linkages between ACC Mi	nen linkages between ACC Mission Area deficiencies and modernization investment	ment
1 1	- (U) \$182 - (U) \$117	Initiate analysis of training to identify more efficient, effective methods in support of AETC Mission Areas. Continue analysis of the Aeromedical Evacuation mission and environment during contingency operations.	ng to identify more efficient, effective methods in support of AETC Mission Areas Aeromedical Evacuation mission and environment during contingency operations.	eas. ons.
Projec	Project 3361	Pa	Page 2 of 4 Pages	Exhibit R-2 (PE 0605808F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (R	2-2 Exhib	€		DATE Feb	February 1997	
BUDGET ACTIVITY 6 - Management and Support	0	PE NUMBER AND TITLE 0605808F Deve	ס דוזעב Development Planning	nt Plann	ing		PROJE(РРОЈЕСТ 3361
 (U) \$6,049 Total (U) \$1999 (\$\$\frac{\chi}{\chi}\$ in Thousands). Estimates. Projects have not been selected. (U) \$300 Continue efforts to identify opportunities to streamline, consolidate, and automate AF Modernization Planning processes. (U) \$1400 Continue surveillance and reconnaissance mission area study to identify architecture alternatives to support the battlefield commander. (U) \$495 Continue efforts to strengthen linkages between ACC Mission Area deficiencies and modernization investment (U) \$495 Complete analysis of the Aeromedical Evacuation mission and environment during contingency operations. (U) \$2992 Initiate or continue efforts in support of Air Force Modernization Planning, to be selected in December 1997. (U) \$6,197 Total 	neen selected. to streamline, con mission area stuc missile capabiliti tween ACC Missi acuation mission it Force Moderni	nsolidate, and and the total to identify ares, and force strain Area deficition Area deficition and environmentation Planning	utomate AF Mechitecture alter ructure trades a encies and moc nt during contil s, to be selected	odernization matives to s cross all sp lernization i ngency oper	Planning pupport the bace Mission nvestment ations.	rocesses. attlefield cor Areas.	mmander.	
(U) B. Program Change Summary (S in Thousands)						,		
(U) Appropriated Value	FY 1996 6,495 6,745	FY 1997 6,531 6,531	FY 1998 6,673	FY 1999 6,832	_	Total <u>Cost</u> Continuing		
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-198	-185 -152						
d. Below Threshold Reprogramminge. Recissions(U) Adjustments to Budget Years Since FY 1997 PB	-17		-624	-635				
 (U) Current Budget Submit/98 PB 6,197 6,194 6,049 6,197 (U) Change Summary Explanation: Funding: Funding is reduced in FY/98 and FY/99 to support higher priority efforts and for revised economic assumptions. Schedule: Not applicable. Technical: Not applicable. 	6,437 nigher priority eff	6,194 forts and for rev	6,049 ised economic	6,197 assumptions.		Continuing		
(U) C. Other Program Funding Summary (\$ in Thousands) Not applicable.	t applicable.							
FY 1996	FY 1997 FY 1998	98 FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To <u>Compl</u>	Total Cost
Project 3361	Page 3	Page 3 of 4 Pages			Exhibit	Exhibit R-2 (PE 0605808F)	305808F)	
	-	1213						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T ITEM JUST	LIFICAT	IS NO!	HEET (R	-2 Exhil	bit)		DATE		إ
BUDGET ACTIVITY 6 - Management and Support			PE NU	PE NUMBER AND TITLE 0605808F Deve	PE NUMBER AND TITLE 0605808F Development Planning	ent Plan	ning		repruary 1997 PROJ 336	997 PROJECT 3361
(D)	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
(U) D. Schedule Profile										
(II) Evenute projects	FY 1996	4;	日2:	FY 1997 2 3	4	$\frac{\text{FY } 1998}{2}$	8 <mark>8</mark> 3 4		FY 1999 2 3	4
spototi proporti	<	×		×	×	×			×	×
Project 3361			Page 4 of 4 Pages	Pages			Exhibit	Exhihit R.2 (DE OGOESOSE)	OSBORE	

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PE NUMBER: 0605853F

UNCLASSIFIED

PE TITLE: Environmental Conservation

RDT&E BUDGET IT	EM JUS	TIFICA.	TION S	HEET (R	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 6 - Management and Support			PE NI	PE NUMBER AND TITLE 0605853F Envi	PE NUMBER AND TITLE 0605853F Environmental Conservation	ental Co	nservatio	r.	4	РRОЈЕСТ 4392
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4392 Environmental Conservation	8,194	10,429	11,914	12,752	12,807	12,553	12,461	14,164	14,164 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0		0	0	0

(U) A. Mission Description and Budget Item Justification

This program element provides environmental conservation services at three Air Force Material Command Major Range and Test Facility Bases: Eglin AFB, FL, Edwards AFB, CA, and Arnold AFB, TN. The account pays for Class 0 (recurring work to keep the gates open), Class I (work to correct non-compliance with federal, services and projects include: surveying, monitoring and protection of endangered species; environmental assessments and impact analysis; surveying, monitoring and protection of wetlands and floodplains; cultural resources evaluations; and archeological surveys. state or local environmental laws in the current and budget years) and Class II (work to correct non-compliance prior to compliance deadlines) projects. Typical

(U) FY 1996

- Recurring Costs (Class 0) (U) \$5356
- Manpower and Education and Training \$540 99
 - Other Recurring Costs \$4816
- Non-recurring Costs (Class I Projects) (U) \$2838
 - T&E Species 33
- Wetlands \$100
- Other Natural Resources Historical & Cultural Resources \$342 \$1140
- Total (U) \$8194

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Project 4392

Exhibit R-2 (PE 0605853F)

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RDT&E	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	160
BUDGET ACTIVITY 6 - Management and Support	pport	PE NUMBER AND TITLE 0605853F Environmental Conservation		РРОЈЕСТ 4392
(U) <u>FY 1997</u>				
- (U) \$7758 Recurri - (U) \$91 - (U) \$7667	Recurring Costs (Class 0) Manpower and Education and Training Other Recurring Costs			
- (U) \$2671 Non-re - (U) \$1037 - (U) \$834 - (U) \$800 - (U) \$800	Non-recurring Costs (Class I Projects) T&E Species Wetlands Other Natural Resources Historical & Cultural Resources			
- (U) \$10,429 Total				
(U) FY 1998				
- (U) \$6269 Recurri - (U) \$621 - (U) \$5648	Recurring Costs (Class 0) Manpower and Education and Training Other Recurring Costs			
- (U) \$5645 Non-re - (U) \$1161 - (U) \$964 - (U) \$2560 - (U) \$960	Non-recurring Costs (Class I Projects) T&E Species Wetlands Other Natural Resources Historical & Cultural Resources			
- (U) \$11,914 Total				
Project 4392	P	Page 2 of 4 Pages	Exhibit R-2 (PE 0605853F)	

RDT&E BUDGET	JDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibi	(t)	DATE February 1997	1997
BUDGET ACTIVITY 6 - Management and Support	oort	PE NUMBER AND TITLE 0605853F Envir	TITLE Environmen	DITLE Environmental Conservation	tion	PROJECT 4392
(U) <u>FY 1999</u>						
- (U) \$5994 Recurring - (U) \$634 M - (U) \$5360 O	Recurring Costs (Class 0) Manpower and Education and Training Other Recurring Costs					
- (U) \$6758 Non-recurr - (U) \$2374 T - (U) \$954 W - (U) \$2580 O - (U) \$850 H	Non-recurring Costs (Class I Projects) T&E Species Wetlands Other Natural Resources Historical & Cultural Resources					
- (U) \$12,752 Total						
(U) Acquisition Strategy:	Not Applicable					
(U) B. Program Change Summary (\$ in Thousands)	y (\$ in Thousands)				- - -	
(U) FY97 President's Budget (U) Appropriated Value	<u>FY 1996</u> 14,169 4,169	FY 1997 10,870 10,870	FY 1998 11,195	FY 1999 11,203	Cost TBD	
(U) Adjustments to Appropriated Value a. Congressional General Reductions b. corp.	alue ctions (82)	(227)				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions	ming (58)	(+12)	6	1 540		
I. Adjustments to Budget rears since 1/19/ (U) Current Budget Submit/President's Budget	_	10,429	11,914	12,752	TBD	
(U) Change Summary Explanation: Funding: Adjustments to FY96 Class I requirements and b) a be	Change Summary Explanation: Funding: Adjustments to FY96 appropriations since the FY97 PB submission include a) Omnibus reprogramming of \$4,700,000 to cover must pay Class 0 and Class I requirements and b) a below threshold reprogramming of \$534,000 to PE 0605856f to cover Hurricane Opal damages at Eglin AFB, FL. Adjustments to	ission include a) O 00 to PE 06058561	mnibus reprograr to cover Hurrica	nming of \$4,700, ne Opal damages	000 to cover must pay C at Eglin AFB, FL. Adju	lass 0 and stments to
Project 4392	Pa	Page 3 of 4 Pages		Ē	Exhibit R-2 (PE 0605853F)	F)

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RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605853F Environmental Conservation	PROJECT 4392
FY97 appropriations include a Congressional general reduction of \$227,000 and small business investment research reduction of \$214,000. Increase to FY98 and FY99 is due to additional Class 0 work required at Eglin AFB, FL.	00 and small business investment research reduction of	\$214,000. Increase to FY98 and
Schedule: Not Applicable		
Technical: Not Applicable		
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable	tble	
(U) D. Schedule Profile Not Applicable		
Project 4392	Page 4 of 4 Pages	Exhibit R-2 (PE 0605853F)
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PE NUMBER: 0605854F

UNCLASSIFIED

PE TITLE: Pollution Prevention

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	IEET (R	-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0605854F Pollu	PE NUMBER AND TITLE 0605854F Pollution Prevention	Preventic	nc		a T	РВОЈЕСТ 1007
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1007 Pollution Prevention	13,397	19,756	5,880	4,314	5,331	5,406	5,689	5,860	5,860 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0		0	0	0

(U) A. Mission Description and Budget Item Justification

eliminating ozone depleting chemicals and hazardous materials; reducing the generation of hazardous waste, air emissions, and solid wastes; establishing and operating This program element funds pollution prevention efforts required to accomplish the objectives and subobjectives of the Air Force Pollution Prevention Strategy to common hazardous materials and processes. The account provides funds for Class 0 (recurring work to keep the gates open), Class 1 (work required to eliminate pollution prevention Executive Orders) and Class 2 (work required to meet future goals, policies, and legal requirements). Typical services and projects include: weapons systems pollution prevention tools. It also funds efforts to validate and qualify environmentally acceptable materials and processes to replace existing include installation level programs at Air Force Material Command Major Range and Test Facility bases (Eglin, Arnold, and Edwards AFBs) and cross-cutting dependence on ozone depleting chemicals, work to correct current non-compliance with federal, state or local environmental laws, and work required to satisfy recycling and composting programs; and establishing and operating hazardous material pharmacies and centralized hazardous material tracking programs.

(U) FY 1996

- Recurring Costs (Class 0) (U) \$2889
- Manpower and Education and Training 99
 - Other Recurring Costs \$2653
- Non-recurring Costs (Class I Projects) (U) \$3980
- RCRA Subtitle C Hazardous Waste RECRA Subtitle D - Solid Waste
 - Clean Air Act
- Clean Water Act
- Hazardous Material Reduction

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RDT&E BUDGET ITEM	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605854F Pollution Prevention	PROJECT 1007
(U) \$6,528 Validation and qualification of Pollution Prevention Strategy objectives and su	(U) \$6,528 Validation and qualification of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force Pollution Prevention Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan.	ocol and Air Force Plan.
- (U) \$13,397 Total		
(U) <u>FY 1997</u>		
- (U) \$2058 Recurring Costs (Class 0) - (U) \$662 Manpower and Educat - (U) \$1396 Other Recurring Costs	() Education and Training 5 Costs	
 (U) \$2094 Non-recurring Costs (Class I Projects) (U) \$356 RCRA Subtitle C - Hazardous Waste (U) \$251 Clean Air Act (U) \$21 Clean Water Act (U) \$127 Hazardous Material Reduction (U) \$127 Other 	rojects) azardous Waste Solid Waste (eduction	
(U) \$15,604 Validation and qualification of Pollution Prevention Strategy objectives and su	(U) \$15,604 Validation and qualification of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force Pollution Prevention Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan.	
- (U) \$19,756 Total		
(U) <u>FY 1998</u>		
- (U) \$1374 Recurring Costs (Class 0) - (U) \$583 Manpower and Educat - (U) \$791 Other Recurring Costs	beducation and Training Costs	
 (U) \$1186 Non-recurring Costs (Class I Projects) (U) \$202 RCRA Subtitle C - Hazardous Waste (U) \$47 RECRA Subtitle D - Solid Waste (U) \$142 Clean Air Act 	rojects) azardous Waste Solid Waste	
Project 1007	Page 2 of 4 Pages Exhibit R-2 (Exhibit R-2 (PE 0605854F)

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RDT&E	RDT&E BUDGET ITEM JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	upport	PE NUMBER AND TITLE 0605854F Pollution Prevention	PROJECT 1007
- (U) \$12 - (U) \$724 - (U) \$59	Clean Water Act Hazardous Material Reduction Other		
- (U) \$3,320 Valide Pollution Prevention St	ation and qualification of commercially available i trategy objectives and subobjectives in accordance	(U) \$3,320 Validation and qualification of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force Pollution Prevention Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan.	ontreal Protocol and Air Force at Strategic Plan.
- (U) \$5,880 Total			
(U) <u>FY 1999</u>			
- (U) \$1418 Recun - (U) \$610 - (U) \$808	Recurring Costs (Class 0) Manpower and Education and Training Other Recurring Costs		
- (U) \$1212 Non-re - (U) \$182 - (U) \$85 - (U) \$97 - (U) \$12 - (U) \$788 - (U) \$788 - (U) \$48	Non-recurring Costs (Class I Projects) RCRA Subtitle C - Hazardous Waste RECRA Subtitle D - Solid Waste Clean Air Act Clean Water Act Hazardous Material Reduction Other		
- (U) \$1,684 Validation and qualific. Pollution Prevention Strategy objectives	ttion and qualification of commercially available nrategy objectives and subobjectives in accordance	Validation and qualification of commercially available material, equipment, and processes to support the Montreal Protocol and Air Force tion Strategy objectives and subobjectives in accordance with the Environmental Research and Development Strategic Plan.	ontreal Protocol and Air Force t Strategic Plan.
- (U) \$4,314 Total			
(U) Acquisition Strategy:	Not Applicable		
Project 1007	Pag	Page 3 of 4 Pages	Exhibit R-2 (PE 0605854F)

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RDT&E BUDGET ITEM JUS	TIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	£	DATE
BUDGET ACTIVITY 6 - Management and Support (D) B Program Change Summer (2)		PE NUMBER AND TITLE 0605854F Pollu	ο τιπιε Pollution Prevention	evention	rebruary 1997 PROJECT 1007
(U) FY97 President's Budget (U) Appropriated Value (II) A dijustrmente to A numanited Voluce	FY 1996 14,046 14,046	FY 1997 20,628 20,628	FY 1998 6,686	<u>FY 1999</u> 4,743	Total <u>Cost</u> TBD
a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	(275) (176)	(470) (402)			
 d. Below Threshold Reprogramming e. Rescission f. Adjustments to Budget Years since FY97 PB (U) Current Budget Submit/President's Budget 	(194) (4) 13,397	19756	(806) 5,880	(429) 4,314	TBD
Funding change between FY 96 and FY 97 is primarily due to initial front loading to accomplish the program's most significant pollution prevention goals reduce/eliminate dependence on ozone depleting chemicals and reduce the use of hazardous materials. Also, the program had significant start-up costs associated with instituting installation pollution prevention programs (hazardous material pharmacies and recycling/composting programs). Finally, funding increases can be contributed to the aggressive pursuit of easily identifiable qualification opportunities to transition environmental technologies into operational use. Reduced funding levels for FY 98 and FY 99 are primarily due to the maturity of the program - most of the initial start-up investments have been made and fewer Class 1 requirements and qualification opportunities have been identified. Adjustments to FY 96 include Congressional reductions of \$275,000, small business investment research reduction of \$400. Adjustments to FY 97 include Congressional and increased efficiencies in operations and services resulting in lower costs and the deferral of all Class II requirements until they become Class I.	ue to initial front als and reduce the s (hazardous mat qualification op the maturity of the entified. Adjust 4,000 and a belo earch reduction ting in lower cos	I loading to accon e use of hazardou erial pharmacies portunities to train ne program - mos ments to FY 96 in w threshold repro of \$402,000. Dec	tplish the progras a materials. Also and recycling/cor isition environme to f the initial static clude Congressi ogramming of \$4 reases in FY 98 at 11 re 10 f all Class II re	n's most significe, the program had prosting program and all technologies t-up investments on all reductions of 1000. Adjustment and FY 99 result is equirements until equirements until	is primarily due to initial front loading to accomplish the program's most significant pollution prevention goals - leting chemicals and reduce the use of hazardous materials. Also, the program had significant start-up costs associated thion programs (hazardous material pharmacies and recycling/composting programs). Finally, funding increases can be ly identifiable qualification opportunities to transition environmental technologies into operational use. Reduced marily due to the maturity of the program - most of the initial start-up investments have been made and fewer Class 1 shave been identified. Adjustments to FY 96 include Congressional reductions of \$275,000, small business investmen issions of \$194,000 and a below threshold reprogramming of \$4,000. Adjustments to FY 97 include Congressional investment research reduction of \$402,000. Decreases in FY 98 and FY 99 result from changes in revised cost estimate services resulting in lower costs and the deferral of all Class II requirements until they become Class I.
Schedule: Not Applicable					
Technical: Not Applicable					
(U) C. Other Program Funding Summary (\$ in Thousands)	Not Applicable	ıble			
(U) D. Schedule Profile Not Applicable					
Project 1007	Pag	Page 4 of 4 Pages		Ēx	Exhibit R-2 (PE 0605854F)

PE NUMBER: 0605856F

UNCLASSIFIED

PE TITLE: Environmental Compliance

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	TION S	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NU 060	PE NUMBER AND TITLE 0605856F Envir	TITLE Invironm	ental Co	PE NUMBER AND TITLE 0605856F Environmental Compliance		40	PROJECT 5856
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
5856 Environmental Compliance	26,053	21,865	17,126	21,705	22,197	23,547	24,989	26,798	26,798 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0		0	0	0

(U) A. Mission Description and Budget Item Justification

Material Command Major Range and Test Facility Bases: Eglin AFB, FL, Edwards AFB, CA, and Arnold AFB, TN. The enviromental compliance program includes projects include: hazardous waste management and disposal; upgrade and removal of underground storage tanks; air and water pollution compliance projects, asbestos program are air quality, hazardous waste, storage tanks, polychlorinated biphenyls (PCBs), drinking water, storm water, wastewater, hazardous materials, asbestos and Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration (OSHA). The primary focus areas of the environmental compliance lead-based paint. The account provides funds for Class 0 (recurring work to keep the gates open), Class I (work to correct non-compliance with federal, state or local This program element provides environmental compliance efforts required to meet federal, state or local environmental laws and standards at three Air Force environmental laws in the current and budget years) and Class II (work to correct non-compliance prior to compliance deadlines) projects. Typical services and identified. Air Force installations, like all other Federal facilities, are subject to regulation and inspection by state and local regulatory agencies, as well as the requirements to meet new legal requirements, ensure adherence with existing legal requirements and correct out of compliance situations when violations are abatement and disposal. Account also funds for environmental sampling and analysis; studies; testing and inspections; permits and fees.

(U) FY 1996

- Manpower and Education and Training (U) \$16,604 Recurring Costs (Class 0)
 - Permits and Fees **33333**
- Sampling, Analysis, Monitoring \$1299 \$1788
 - Waste Disposal
 - Other Recurring Costs \$2669
- (U) \$9,449 Non-recurring Costs (Class I Projects)
- RCRA Subtitle C Hazardous Waste
- RCRA Subtitle I Underground Storage Tanks RECRA Subtitle D - Solid Waste

Project 5856

Page 1 of 4 Pages

RDT&E BUDGET	_	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE	rebruary
(U) \$2198 - (U) \$2861 - (U) \$0 - (U) \$1916	Clean Air Act Clean Water Act Planning Other		9686
- (U) \$26,053 Total			
(U) <u>FY 1997</u>			
- (U) \$15,714 Recurrin - (U) \$6322 - (U) \$1040 - (U) \$1465 - (U) \$2570 - (U) \$4317	Recurring Costs (Class 0) Manpower and Education and Training Permits and Fees Sampling, Analysis, Monitoring Waste Disposal Other Recurring Costs		
- (U) \$6151 Non-rect - (U) \$240 - (U) \$240 - (U) \$522 - (U) \$1330 - (U) \$1165 - (U) \$165 - (U) \$165 - (U) \$165	Non-recurring Costs (Class I Projects) RCRA Subtitle C - Hazardous Waste RECRA Subtitle D - Solid Waste RCRA Subtitle I - Underground Storage Tanks Clean Air Act Clean Water Act Planning Other		
- (U) \$21,865 Total			
(U) <u>FY 1998</u>			
- (U) \$14,641 Recurring - (U) \$5496 - (U) \$960 - (U) \$1297 - (U) \$2561	Recurring Costs (Class 0) Manpower and Education and Training Permits and Fees Sampling, Analysis, Monitoring Waste Disposal		
Project 5856	Page	Page 2 of 4 Pages	Exhibit R-2 (PE 0605856F)

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RDT&E	RDT&E BUDGET ITEM JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	upport	PE NUMBER AND TITLE 0605856F Environmental Compliance	PROJECT 5856
– (U) \$ 4327	Other Recurring Costs		
- (U) \$2485 Non-re - (U) \$250 - (U) \$0 - (U) \$0 - (U) \$835 - (U) \$800 - (U) \$800 - (U) \$800 - (U) \$600	Non-recurring Costs (Class I Projects) RCRA Subtitle C - Hazardous Waste RECRA Subtitle D - Solid Waste RCRA Subtitle I - Underground Storage Tanks Clean Air Act Clean Water Act Planning Other	ερ.	
– (U) \$17,126 Total			
(U) <u>FY 1999</u>			
- (U) \$14,731 Recurr - (U) \$5337 - (U) \$945 - (U) \$1437 - (U) \$2586 - (U) \$4426	Recurring Costs (Class 0) Manpower and Education and Training Permits and Fees Sampling, Analysis, Monitoring Waste Disposal Other Recurring Costs		
- (U) \$6974 Non-re - (U) \$0 - (U) \$0 - (U) \$0 - (U) \$1460 - (U) \$2454 - (U) \$2366 - (U) \$3060	Non-recurring Costs (Class I Projects) RCRA Subtitle C - Hazardous Waste RECRA Subtitle D - Solid Waste RCRA Subtitle I - Underground Storage Tanks Clean Air Act Clean Water Act Planning Other	σ	
- (U) \$21,705 Total			
(U) Acquisition Strategy:	Not Applicable		
Project 5856	Pa	Page 3 of 4 Pages Exhibi	Exhibit R-2 (PE 0605856F)

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RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Exhibi	t)	DATE February 1997	
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605856F Envir	4D TITLE Environmen	D ТITLE Environmental Compliance		5
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY97 President's Budget 2 (U) Appropriated Value 2 (II) Adjustments to Appropriated Value	FY 1996 EY 1997 26,423 22,698 26,423 22,698	FY 1998 22,632	FY 1999 21,631	Total <u>Cost</u> TBD	
a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	(517) (475) (11) (358)				
d. Below Threshold Reprogramming e. Rescissions	524 (366)				
 I. Adjustments to Budget Years since FY97 PB (U) Current Budget Submit/President's Budget 	26,053 21,865	(5,506) 17,126	74 21,705	TBD	
(U) Change Summary Explanation: Funding: Adjustment to FY96 appropriations since the FY97 PB submission is primarily due to a below threshold reprogramming of \$534,000 from PE 0605853f to cover Hurricane Opal damages at Eglin AFB, FL. Adjustments to FY97 appropriations include a Congressional general reduction of \$475,000 and small business investment research reduction of \$358,000. Adjustments to FY98 and FY99 reflect a) increased efficiencies in operations and services resulting in lower costs and b) deferral of Class II projects until they become Class I projects. Increase from FY98 to FY99 is required to support deferred Class II projects that become Class I requirements the following year.	B submission is primarily of the to FY97 appropriations ats to FY98 and FY99 refler! I projects. Increase from	due to a below thruinclude a Congresect a) increased eff	shold reprogram sional general rec iciencies in opera required to suppo	ons since the FY97 PB submission is primarily due to a below threshold reprogramming of \$534,000 from PE 06058: AFB, FL. Adjustments to FY97 appropriations include a Congressional general reduction of \$475,000 and small \$358,000. Adjustments to FY98 and FY99 reflect a) increased efficiencies in operations and services resulting in low till they become Class I projects. Increase from FY98 to FY99 is required to support deferred Class II projects that year.	3f **
Schedule: Not Applicable					
Technical: Not Applicable					
(U) C. Other Program Funding Summary (\$ in Thousands)	Not Applicable				
(U) D. Schedule Profile Not Applicable					
Project 5856	Page 4 of 4 Pages		Exi	Exhibit R-2 (PE 0605856F)	

UNCLASSIFIED

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PE NUMBER: 0605860F

UNCLASSIFIED

PE TITLE: Rocket System Launch Program (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE Fet	February 1997	16
вирбет Астилту 6 - Management and Support			PE NI 060 (Sp	PE NUMBER AND TITLE 0605860F Rock (Space)	PE NUMBER AND TITLE 0605860F Rocket System Launch Program (Space)	stem La	unch Pro	gram	4	РРОЈЕСТ 1023
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1023 Rocket System Launch Program (RSLP)	36,900	32,218	8,013	8,023	8,255	8,360	8,522		8,729 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

- government agencies using excess ballistic missiles assets. RSLP mission was established by the Secretary of Defense in 1972. It provides mission planning, payload Minuteman II by providing storage of these and other assets. RSLP performs research and development support operations required for general rocket system launch (U) Rocket System Launch Program (RSLP) is tasked to provide Research, Development, Test and Evaluation (RDT&E) launch vehicle support to DoD and other integration, launch support, booster storage and disposal, maintenance and logistics support for selected DoD RDT&E launches. Costs directly attributable to a specific launch or program are paid by the user (Air Force, Navy, Army, Ballistic Missile Defense Organization, etc.). RSLP directly supports deactivation of research and development use.
- (U) This program is in Budget Activity 6 Management and Support, Research Category 6.5, because RSLP provides research and development effort and/or operations support for general research and development use.

(U) FY 1996 (\$ in Thousands):

- Storage and refurbishment of deactivated Minuteman and other missile flight test assets.
 - Launch support for Air Force Academy cadet-developed satellite. \$11,500
 - \$16,800 9
- Transportable range equipment development. Provided launch assets and technical assistance for DoD RDT&E launches. (Funded by users.)
 - (U) \$0 (U) \$223 (U) \$36,900

Page 1 of 3 Pages

Project 1023

Exhibit R-2 (PE 0605860F)

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RI	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	and Support	PE NUMBER AND TITLE 0605860F Rocket System Launch Program (Space)	
(U) FY 1997 (\$ in Thousands):	Thousands):		
- (U) \$6,126 - (U) \$2,026 - (U) \$23,421 - (U) \$645 - (U) \$645 - (U) \$32,218	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors, perform analyses/studies to identif affecting stored motors. Accomplish atmospheric interceptor technology, plasma attenuation, and materials demonstration Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.) Other Total	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors; perform analyses/studies to identify and evaluate potential safety-related issues affecting stored motors. Accomplish atmospheric interceptor technology, plasma attenuation, and materials demonstration flight testing for BMDO. Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.) Other	te potential safety-related issues g for BMDO.
(U) FY 1998 (\$ in Thousands):	Thousands):		
- (U) \$6,013 - (U) \$2,000 - (U) \$0 - (U) \$8,013	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors; perform analyses/studies to identif affecting stored motors. Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.) Total	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors; perform analyses/studies to identify and evaluate potential safety-related issues affecting stored motors. Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.)	te potential safety-related issues
(U) FY 1999 (\$ in Thousands):	Thousands):		
- (U) \$6,023 - (U) \$2,000 - (U) \$0 - (U) \$8	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors, perform analyses/studies to identify affecting stored motors. Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.) Total	Continue storage and refurbishment of deactivated Minuteman and other missile flight test assets. Perform aging surveillance-related activities on stored motors; perform analyses/studies to identify and evaluate potential safety-related issues affecting stored motors. Provide launch assets and technical assistance for DoD RDT&E launches. (Funded by users.) Total	te potential safety-related issues
Project 1023	Pag	Page 2 of 3 Pages Exhib	Exhibit R-2 (PE 0605860F)
		9701	

RDT&E BUDGET ITEM JUS	TIFICATIO	N SHEET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	(t)	DATE February 1997	v 1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605860F Rock (Space)	PE NUMBER AND TITLE 0605860F Rocket System Launch Program (Space)	tem Launcl	1	РРОЈЕСТ 1023
(U) B. Program Change Summary (\$ in Thousands)						
	FY 1996	FY 1997	FY 1998	FY 1999	Total	
(U) Appropriated Value	32,808 22,749	8,152 33,252	8,474	8,609	Continuing	
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-220 -523 11,275	-705 -329				
 d. Below Inreshold Keprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	3,619 36,900	32,218	-461 8,013	-586 8,023	Continuing	
(U) Change Summary Explanation:		;				
Funding: FY97 reflects congressional-mandated reductions; FY98-02 funding reflects reductions to fund other AF and DoD priorities. Schedule: No significant impact.	ons; FY98-02 fu	nding reflects re	ductions to fund o	ther AF and Do	D priorities.	
Technical: No significant impact.						
(U) C. Other Program Funding Summary (\$\sums\$ in Thousands):						
Related RDT&E: PE 0603851F, ICBM Dem/Val.						
(U) D. Schedule Profile: Not applicable.						
Project 1023	Pag	Page 3 of 3 Pages			Exhibit R-2 (PE 0605860F))F)

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PE NUMBER: 0605876F

UNCLASSIFIED

PE TITLE: Non-Test Minor Construction (RPM)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	8-2 Exhi	bit)		DATE FA	February 1997	200
RIDGET ACTIVITY						•			Juan y	
6 - Management and Support			090	DE NUMBER AND TITLE O605876F Non-	PENUMBER AND TITLE 0605876F Non-Test Minor Construction (RPM)	Minor Co	nstruction	on (RPM)		PROJECT 06MC
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06MC Minor Construction (1)	0	*0	1,853	1,941	1,998	2,055	2,246	2,328	2,328 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Minor Construction, project 06MC, was transferred from PE 0605807F, project 06MC, effective FY 98. Funding in FY 96/97 refers to PE 0605807F, project 06MC. *FY 96: \$3,588K, FY 97: \$3,640K. Ξ

(U) A. Mission Description and Budget Item Justification

This program is in budget activity 6 - Management and Support, Research Category 6.5 because the program element provides essential non-test minor construction at under test PEs and non-test, base support items under non-test base support PEs. This action places the proper focus on test and non-test activities and aligns the base support functions of these three bases in-line with the rest of the Air Force's PEs. three locations: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over four thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road network; utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines. Beginning in FY 98, the Air Force moved the non-test portions of minor construction to PE 0605876F and out of PE 0605807F, Test and Evaluation Support, in order to align test functions

- (U) FY 1996 (\$ in Thousands) (PE 0605807F, project 06MC);
- Financed in-house minor construction work performed by government employees (included supplies, materials and equipment) and by contract. Covered work on test and non-test facilities. (U) \$3,588
 - Total (U) \$3,588
- (U) FY 1997 (\$ in Thousands) (PE 0605807F, project 06MC):
- Finance in-house minor construction work performed by government employees (included supplies, materials and equipment) and by contract. (U) \$3,640
 - Covered work on test and non-test facilities.
 - (U) \$3,640
- FY 1998 (\$ in Thousands): 9
- Finance in-house non-test minor construction work performed by government employees (included supplies, materials and equipment) and by contract. Covers work on only non-test facilities and infrastructure. (U) \$1,853
 - Total (U) \$1,853

Project 06MC

UNCLASSIFIED

Page 1 of 3 Pages

Exhibit R-2 (PE 0605876F)

RDT&E BUDGET ITEM J	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE Februsay, 1007	1, 1007
oort		PE NUMBER AND TITLE 0605876F Non-	D TITLE Non-Test M	PE NUMBER AND TITLE 0605876F Non-Test Minor Construction (RPM)	tion (RPM)	PROJECT 06MC
(U) \$1,941 Finance in-house non-test minor construction work performed by government employees (included supplies, materials and equipment) and by contract. Covers work on only non-test facilities and infrastructure. (U) \$1,941 Total	construction work perl on-test facilities and in	formed by govern ıfrastructure.	nment employees	s (included supplies	, materials and equipn	nent) and by
(U) B. <u>Program Change Summary (\$ in Thousands)</u>	* Funding	in FY 96/97 refe	rs to PE 0605807	* Funding in FY 96/97 refers to PE 0605807F, projects 06MC.		
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996* 3,588	FY 1997* 3,717 3,717	FY 1998 3,893	FY 1999 4,084	Total <u>Cost</u> Cont	
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Relow Threshold Reprogram		77-				
(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	3,588	3,640	-2,040 1,853	-2,143 1,941	Cont	
(U) Change Summary Explanation: Funding: Change in finding in FY 98 and FY 99 represents the transfer of the non-test base support elements into separate program elements (This R-2 documents the transfer from PE 0605807F, project 06MC, to PE 0605878F; Other related non-test base support PEs are listed below). This realignment places the test emphasis on the test PEs and the base support emphasis on the non-test base support activities and aligns the base support functions of these three bases in-line with the rest of the Air Force's PEs.	FY 99 represents the transfer of the non-test base support elements into separate program elements (This R-2 documents AC, to PE 0605878F; Other related non-test base support PEs are listed below). This realignment places the test ort emphasis on the non-test base support activities and aligns the base support functions of these three bases in-line with	of the non-test bas lated non-test bas se support activit	se support elemer e support PEs are ies and aligns the	nts into separate pro e listed below). Thi e base support func	gram elements (This is realignment places t tions of these three ba	R-2 document the test ses in-line witl
Schedule: None.						
Technical: None.						
(U) C. Other Program Funding Summary (\$ in Thousan	Thousands): Not applicable.					
Related non-test base support PEs: (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS)						
Project 06MC	Pag	Page 2 of 3 Pages		Exh	Exhibit R-2 (PE 0605876F)	(BF)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1997	26
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605876F Non-Test Minor Construction (RPM)		PROJECT 06MC
(U) PE 0605896F, Non-Test Base Operating Support (BOS) (U) PE 0605853F, Environmental Compliance (U) PE 0605854F, Pollution Prevention (U) PE 0605856F, Environmental Conservation			
(U) D. Schedule Profile: Not applicable.			<u> </u>
Project 06MC	Page 3 of 3 Pages Exhil	Exhibit R-2 (PE 0605876F)	
	1723		

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PE NUMBER: 0605878F PE TITLE: Non-Test Maint And Repair (RPM)

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	760
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 0605878F Non-Test Maint And Repair (RPM)	TITLE Ion-Test	Maint An	d Repair	(RPM)		PROJECT 06MR
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06MR Maintenance and Repair (1)	*0	0	55,200	57,503	69,209	70,635	73,124	74,877	Continuing	0
Quantity of RDT&E Articles	0	0	O	0	0	0	0	0	0	0
(1) Maintenance and Repair, project 06MR, was project 06MR. *FY 96: \$85,865K, FY 97:	s transferred from PE 0605807F, project 06MR, effective FY 98. Funding in FY 96/97 refers to PE 0605807F, \$72,557K.	om PE 0605	807F, projec	t 06MR, effe	ective FY 98	. Funding in	1 FY 96/971	efers to PE	0605807F,	
This program is in budget activity 6 - Management and Support, Research Category 6.5 because this project provides essential non-test facility Real Property This program is in budget activity 6 - Management and Support, Research Category 6.5 because this project provides essential non-test facility Real Property Maintenance and Repair at these three locations: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. Physical plant maintained by this account covers 800,000 acres of land; over four thousand structures in excess of 30 years old encompassing fifteen million square feet; over five million square yards of airfield pavement; 1900 miles of road network; utility systems that include 120 wells, 10 sewage treatment plants, 20 substations and over 1600 miles of high voltage electrical distribution lines. Beginning in FY 98, the Air Force moved the non-test portions of Real Property Maintenance to PE 0605878F and out of PE 0605807F. Test and Evaluation Support, in order to align test functions under test PEs and non-test, base support PEs. This action places the proper focus on test and non-test activities and aligns the base support functions of these three bases in-line with the rest of the Air Force's PEs.	Justification general and Suj ions: Eglin AF in excess of 30 Air Force move retions under te base support fi	pport, Reseau B FL, Edwa Vears old en 0 wells, 10 s et the non-te est PEs and n metions of th	rch Category rds AFB CA rcompassing rewage treatn sst portions o ron-test, base	, and Arnold fifteen milli, nent plants, ? f Real Prope s support iter	this project I AFB TN. F on square fer 20 substation rty Maintena ns under non ith the rest o	provides ess hysical plan et; over five is and over 1 mee to PE 0t 1-test base su f the Air Fo	sential non-te tr maintained million squa 600 miles or 605878F and upport PEs.	est facility R. I by this accc re yards of a f high voltag 1 out of PE O	eal Property ount covers { iirfield pavei ge electrical 6605807F, T	800,000 nent; est and oper focus
 (U) FY 1996 (\$\frac{\psi}{\psi}\$ in Thousands) (PE 0605807F, project 06MR): (U) \$29,408 Financed in-house work force. (U) \$21,057 Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. (U) \$35,400 Real Property Maintenance by Contract, includes Hurricane Opal damage repair (FY96 Omnibus reprogramming) (U) \$85,865 Total 	7F, project 06Mrk force. ss, and equipmance by Contra	AR): ent employe act, includes	d by in-hous Hurricane O	e work force)pal damage	; performing repair (FY96	day-to-day 1 5 Omnibus re	maintenance eprogrammi	on test and 1	non-test faci	lities.
 (U) FY 1997 (\$\frac{\kappa}{\kappa}\$ in Thousands) (PE 0605807F, project 06MR): (U) \$30,290 Finance in-house work force. (U) \$21,317 Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. (U) \$20,950 Real Property Maintenance by Contract (U) \$72,557 Total 	7F, project 06N t force. ss, and equipmonance by Contra	AR): ent employer act	d by in-hous	e work force	performing	day-to-day 1	maintenance	on test and	non-test faci	lities.

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Project 06MR

Exhibit R-2 (PE 0605878F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibi		DATE Fohrson 4007	
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605878F Non-	ND TITLE	PE NUMBER AND TITLE 0605878F Non-Test Maint And Renair (PDM)	coluary	PROJECT
(1) FY 1998 (% in Thousands).		1001-1001	ווווג אווע ואפףמוו		UDIMIK
- (U) \$15,199 Finance in-house work force (U) \$15,330 Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities (U) \$8,671 Real Property Maintenance by Contract - (U) \$55,200 Total	d by in-house work fo	rce performing day	-to-day maintenance	on test and non-test faci	ities.
 (U) FY 1999 (\$\frac{\psi}{100}\$ in Thousands): (U) \$32,135 Finance in-house work force. (U) \$15,667 Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. (U) \$9,701 Real Property Maintenance by Contract (U) \$57,503 Total 	d by in-house work fo	rce performing day	-to-day maintenance	on test and non-test facil	ities.
(U) B. <u>Program Change Summary (S in Thousands)</u>					
*	* Funding in FY 96/97 refers to PE 0605807F, projects 06MR.	ers to PE 0605807	f, projects 06MR.		
(U) Previous President's Budget 69,565 (U) Appropriated Value (U) Adiustments to Annomiated Value	FY 1997* 55 74,122 74,122	<u>FY 1998</u> 75,898	FY 1999 77,524	Total Cost Cont	
a. Cong Reductions b. SBIR	-1,565				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	5 72,557	-20,698 55,200	-20,021 <i>57</i> ,503		
(U) Change Summary Explanation: Funding: Change in funding in FY 98 and FY 99 represents the tra	isfer of the non-test ba	ise support element	s into separate progr	FY 99 represents the transfer of the non-test base support elements into separate program elements (This R-2 documents	o monte

the transfer from PE 0605807F, project 06MR, to PE 0605878F; Other related non-test base support elements into separate program elements (This R-2 documents the transfer from PE 0605807F, project 06MR, to PE 0605878F; Other related non-test base support PEs are listed below). This realignment places the test emphasis on the test PEs and the base support emphasis on the non-test base support activities and aligns the base support functions of these three bases in-line with the rest of the Air Force's PEs.

Schedule: None.

Project 06MR

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Page 2 of 3 Pages

Exhibit R-2 (PE 0605878F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605878F Non-Test Maint And Repair (RPM)	(RPM) 06MR
Technical: None.		
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.		
Related non-test base support: (U) PE 0605876F, Non-Test Minor Construction (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS) (U) PE 0605896F, Non-Test Base Operating Support (BOS) (U) PE 0605853F, Environmental Compliance (U) PE 0605854F, Pollution Prevention (U) PE 0605856F, Environmental Conservation		
(U) D. Schedule Profile: Not applicable.		
Project 06MR	Page 3 of 3 Pages Exhibi	Exhibit R-2 (PE 0605878F)
	1937	

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PE NUMBER: 0605879F

UNCLASSIFIED

PE TITLE: Non-Test Real Property Services (RPS)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	JEET (F	۱-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0605879F Non-	тіт <u>ге</u> lon-Test	Real Pro	DE05879F Non-Test Real Property Services (RPS)	vices (R		РРОЈЕСТ 06СЕ
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06CE Other Support (1) (2)	*0	•0	49,614	47,809	43,311	64,963	56,963		60,241 Continuing	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
			1000	. 0.01170	I.					

(1) Other Support, project 06CE, was transferred from PE 0605896F, projects 06CE and 06UT, effective FY 98, and is to be renamed Real Property Services. Funding in FY 96/97 refers to PE 0605896F, projects 06CE and 06UT. *FY 96: \$48,658K, FY 97: \$47,291K.

the FY 00 to 03 non-test base support amounts were misaligned. The Air Force will correctly align the non-test base support program during the FY 99 program cycle. During the separation of test and non-test functions, correction of manpower alignments, and the attempted transfer to the Operation and Maintenance Appropriation 3 3

A. Mission Description and Budget Item Justification

operations, and civil engineering services, such as custodial, fire protection, hazardous material system certification, refuse collection, insect & pest control. Beginning program also finances "quality of life" costs for day-to-day support for these three bases who have over 90 tenant organizations and an aggregate population in excess and base operating support at Eglin AFB, FL; Edwards AFB, CA; and Arnold AFB, TN. This program supports the non-test portions of these three installations. The in FY 98, the Air Force moved all non-test base support functions out of test and into non-test base support PEs. This action places the proper focus on test and non-test activities and organizes the base support functions of these three bases in-line with the rest of the Air Force's PEs. This program is in budget activity 6 - Management and Support, Research Category 6.5 because this program element provides basic, essential real property services of 55,000 people. In-house workforce represents approximately 30 percent of the total program, with the remainder of the program financing training, utility

(U) FY 1996 (\$ in Thousands) (PE 0605896F, projects 06CE and 06UT);

Financed in-house work force. (U) \$15,664

Materials, fuel, supplies, and equipment employed by in-house work force performing civil engineering services. (U) \$4,699

Purchased utilities, (U) \$20,457

Contract services such as cleaning ducts and tanks and inspecting/certifying overhead doors, elevators, and fuel tanks and annual service contracts such as custodial and refuse collection.

Total (U) \$48,658 1239

Page 1 of 4 Pages

Project 06CE

Exhibit R-2 (PE 0605879F)

RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997
BUDGET ACTIVITY 6 - Management and Support	PROJECT PROJEC
 (U) FY 1997 (\$\frac{\pmansands}{\pmansands}\$) (PE 0605896F, projects 06CE and 06UT): (U) \$15,899 Finance in-house work force. (U) \$4,793 Materials, fuel, supplies, and equipment employed by (U) \$20,646 Purchased utilities. (U) \$5,953 Contract services such as cleaning ducts and tanks and contracts such as custodial and refuse collection. (U) \$47,291 Total 	projects 06CE and 06UT): and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. cleaning ducts and tanks and inspecting/certifying overhead doors, elevators, and fuel tanks and annual service al and refuse collection.
) FY 1998 (\$ in Thousands): - (U) \$16,455 Finance in-house work force. - (U) \$4,937 Materials, fuel, supplies, and equipment employed by - (U) \$21,265 Purchased utilities. - (U) \$6,957 Contract services such as cleaning ducts and tanks and contracts such as custodial and refuse collection.	Finance in-house work force. Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. Purchased utilities. Contract services such as cleaning ducts and tanks and inspecting/certifying overhead doors, elevators, and fuel tanks and annual service contracts such as custodial and refuse collection. Total
 (U) FY 1999 (\$\$ in Thousands): (U) \$16,620 Finance in-house work force. (U) \$4,967 Materials, fuel, supplies, and equipment employed by (U) \$21,361 Purchased utilities. (U) \$4,861 Contract services such as cleaning ducts and tanks and contracts such as custodial and refuse collection. (U) \$47,809 Total 	Finance in-house work force. Materials, fuel, supplies, and equipment employed by in-house work force performing day-to-day maintenance on test and non-test facilities. Purchased utilities. Contract services such as cleaning ducts and tanks and inspecting/certifying overhead doors, elevators, and fuel tanks and annual service contracts such as custodial and refuse collection. Total
Project 06CE	Page 2 of 4 Pages Exhibit R-2 (PE 0605879F)

RDT&E BUDGET ITEM JUST	IFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibi	t)	DATE February 1997	, 1997
вироет Астіvіт 6 - Management and Support		PE NUMBER AND TITLE 0605879F Non-	TITLE Von-Test Re	al Property S	PE NUMBER AND TITLE 0605879F Non-Test Real Property Services (RPS)	PROJECT 06CE
(U) B. Program Change Summary (S in Thousands)	* Funding	in FY 96/97 refer	s to PE 0605896	Funding in FY 96/97 refers to PE 0605896F, projects 06CE and 06UT.	nd 06UT.	
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996* 48,658	FY 1997* 48,304 48,304	<u>FY 1998</u> 52,651	<u>FY 1999</u> 54,231	Total Cost Cont	
 a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	48,658	-1,013	-3,037	-6,422		
(U) Change Summary Explanation: Funding: Change in funding in FY 98 and FY 99 represents the transfer of the non-test base support elements into separate program elements (This R-2 documents the transfer from PE 0605896F, projects 06CE & 06UT, to PE 0605879F; Other related non-test base support PEs are listed below). This realignment places the test emphasis on the test PEs and the base support functions of these three bases in-line with the rest of the Air Force's PEs. Test mission content and associated funding were transferred to PE 0605807F, Test and Evaluation Support.	nts the transfer of PE 0605879F; is on the non-te and associated.	of the non-test base Other related non st base support aci funding were tran	support elemer -test base suppo ivities and align sferred to PE 06	its into separate pro rt PEs are listed be s the base support 1 5807F, Test and E	gram elements (This R ow). This realignment unctions of these three valuation Support.	t places the bases in-line
Schedule: None						
Technical: None	Not amicable					
Related non-test base support PEs: (U) PE 0605876F, Non-Test Minor Construction (RPM) (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605896F, Non-Test Base Operating Support (BOS) (U) PE 0605853F, Environmental Compliance (U) PE 0605856F, Pollution Prevention (U) PE 0605856F, Environmental Conservation	application.					
Project 06CE	Pas	Page 3 of 4 Pages		Ext	Exhibit R-2 (PE 0605879F)	9F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) BUDGET ACTIVITY 6 - Management and Support 10. 10. Scheding Profile. Not constructed.	ON SHEET (R-2 Exhibit) PE NUMBER AND TITLE 0605879F Non-Test Real Property Services (RPS)	PROJE February 1997 PROJETY Services (RPS) 06C	1997 PROJECT 06CE
(U) B. Schedule Profile: Not applicable.			
Project 06CE	Page 4 of 4 Pages	Exhibit R-2 (PE 0605879F)	

PE NUMBER: 0605896F

UNCLASSIFIED

PE TITLE: Base Operations - RDT&E

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (F	R-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 6 - Management and Support			PE NI 060	PE NUMBER AND TITLE 0605896F Base	тп <u>г</u> Заse Ope	PE NUMBER AND TITLE OF TELE OF THE PERSONS - RDT&E	RDT&E			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	134,232	125,979	65,365	63,188	57,085	54,564	53,211	54,341	0	0
06BS Base Operating Support (1)	85,574	78,688	65,365	63,188	57,085	54,564	53,211	54,341	0	0
06CE Other Support (2)	22,792	20,688	0	0	0	0	0	0	0	0
06UT Operations Of Utilities (3)	25,866	26,603	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

test centers (host units) located at these AFBs, respectively: Arnold Engineering Development Center (AEDC), Air Force Development Center (AFDTC), and Air Force (1) Prior to FY98, this PE represented Base Operating Support (BOS) requirements for Arnold, Eglin and Edwards AFBs. In also included all BOS-type services for the accordingly transferred to PE 0605807F, project 06TS. This transfer purifies this 06BS project to represent the day-to-day quality of life requirements at these bases Flight Test Center (AFFTC). Beginning in FY98, any BOS-type requirements associated with test facilities or ranges were deemed "test support requirements" and that are separate from their host unit's testing mission. Beginning in FY98, this PE's description and content is consistent with all other Air Force Base BOS requirements that are budgeted in the Operation & Maintenance appropriation.

Other support requirements and funding were transferred to PE 0605879F (Real Property Services) beginning in FY98. These requirements were not related to the test mission. They represented direct support of real property at each of the bases and therefore were transferred to PE 0605879F 3

Operations of utilities requirements and funding were transferred to PE 0605879F beginning in FY98. These requirements were not related to the test mission. They represented direct support of real property at each of the bases and therefore were transferred to PE 0605879F. ල

(U) A. Mission Description and Budget Item Justification: This program element provides basic, essential services of base operating support at three Air Force Materiel Command (AFMC) bases: Eglin AFB FL, Edwards AFB CA, and Arnold AFB TN. The program finances "quality of life" costs of day-to-day support for DoD civilian and aggregate population in excess of 50,000 people. Beginning in FY98, civilian payroll represents approximately 60 percent of the total program. BOS encompasses security support for numerous quality of life services. For FVs 96 and 97, civil engineering and utility operations were included in this PE. Those requirements and the associated military personnel, dependents of military personnel, and all transient personnel requiring base services. These three locations have over 90 tenant organizations and an and guard services, dormitories, billeting, food services, training, transportation, comptroller, chaplain, personnel, supply, information management and administrative funding have been transferred to PE 0605879F (Non-test Real Property Services) starting in FY98.

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Exhibit R-2 (PE 0605896F)

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Device Activity Construction RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	it)	DATE February 1997	
FY 1996 FY 1997 FY 1998 FY 1999 121,556 132,224 134,789 125,468 128,456 132,224 134,789 125,468 -6,245 -6,245 -6,245 -6,245 -69,424 -62,280 -49,614 -47,809 -20,740 -20,633 -20,740 823 6,269 134,232 125,979 65,365 63,188	BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AN 0605896F	id τίπ.Ε Base Opera	tions - RDT&E	
FY 1996 FY 1997 FY 1998 FY 1999 121,556 132,224 134,789 125,468 128,456 132,224 134,789 125,468 -6,245 -6,245 -6,245 -6,245 -69,424 -62,280 FY 1997 PB -69,424 -62,280 5807F -49,614 -47,809 807F 823 6,269 hudget 134,232 125,979 65,365 63,188	(U) B. Program Change Summary (S in Thousands)					
121,556 132,224 134,789 128,456 132,224 134,789 -6,245 -6,245 -6,245 FY 1997 PB -69,424 -807F -69,424 -49,614 -20,633 hudget 134,232 125,979 65,365		FY 1996	FY 1997	FY 1998	FY 1999	Total <u>Cost</u>
-6,245 -6,245 -6,245 FY 1997 PB -69,424 -807F -20,633 hudget 134,232 125,979 65,365	(U) Previous President's Budget (U) Appropriated Value	121,556 128,456	132,224 132,224	134,789	125,468	
PB -69,424 PB -49,614 -20,633 134,232 125,979 65,365	(U) Adjustments to Appropriated Value a. Congressional Adjustments		-6,245			
PB -69,424 -49,614 -20,633 823 134,232 125,979 65,365	b. Omnibus or Other Above Threshold Reprogram	5,776	Ct 4'O			
-49,614 -20,633 823 134,232 125,979 65,365	(U) Adjustments to Budget Years Since FY 1997 PB			-69,424	-62,280	
-20,633 823 134,232 125,979 65,365	a. KPS transfer to PE 06058/9F			-49,614	-47,809	
823 134,232 125,979 65,365	b. Test services alignment to PE 0605807F			-20,633	-20,740	
134,232 125,979 65,365	C. Misc adjustments			823	6,269	
	(U) Current Budget Submit/President's Budget	134,232	125,979	65,365	63,188	

(U) Change Summary Explanation:

and accordingly transferred to PE 0605807F, project 06TS. These transfers carve out test from non-test and properly align real property services in their own PE. Beginning in FY98, this PE's description and content is consistent with all other Air Force Base BOS requirements that are budgeted in the Operation & Maintenance appropriation. Funding: Beginning in FY98, any civil engineering and utility requirements tied to non-test real property requirements were transferred to PE 0605879F (Non T&E Real Property Services). In addition, any BOS-type requirements associated with test facilities or ranges were deemed "test support requirements"

Schedule:

Technical:

(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.

Related RDT&E:

- (U) PE 0605876F, Non-Test Minor Construction (MC) (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS)
- (U) D. Schedule Profile: Not applicable.

Exhibit R-2 (PE 0605896F)

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RE	RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOL	HEET (R	-2 Exhi	bit)		DATE FeI	February 1997	26
BUDGET ACTIVITY 6 - Management and Support	and Support		i	PE NU 060	PE NUMBER AND TITLE 0605896F Base	D τιτιε Base Operations - RDT&E	rations -	RDT&E			PROJECT 06BS
COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06BS Base Operating Support (1)	pport (1)	85,574	78,688	65,365	63,188	57,085	54,564	53,211	54,341	0	0
Quantity of RDT&E Articles	Articles										
(U) A. Mission Descri	(U) A. Mission Description and Budget Item Ju.	Justification									
(U) FY 1996 (\$ in Thousands)	Thousands):										
- (U) \$42,227 - (II) \$1 585	Financed civilian payroll.	l. Hravel									
- (U) \$5,132	Financed rental and transportation costs (permanent change of stations (PCS))	sportation co	its (permane	nt change of	f stations (PC	.S)).	ļ				
- (U) \$8,164 - (U) \$22,458	Financed communications systems, tools, contract education, and equipment maintenance. Financed supplies, fuels, and miscellaneous contract services.	ns systems, to , and miscella	ols, contract neous contra	education, act services.	and equipme	int maintena	nce.				
- (U) \$6,008 - (U) \$85,574	Financed information pr Total	processing and other equipment, data processing services, and non-flying support of depot-level repairables.	other equipr	nent, data pı	ocessing ser	vices, and n	on-flying su	pport of dep	ot-level repa	irables.	
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$35,793 Financed	Thousands): Financed civilian payroll.										
- (U) \$1,618	Financed mission-related travel.	d travel.		•) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	í					
- (U) \$4,600	Financed rental and transportation costs (permanent change of stations (PCS)).	sportation co	its (permane	nt change of	r stations (PC	.S)). ent maintena	a Ju				
- (U) \$6,033 (U) \$22,352	Financed continuence systems, toors, connect concernor, Financed supplies, fuels, and miscellaneous contract services.	and miscella	neous contra	ect services.	ana equipun		<u>.</u>				
3	nced information	processing and other equipment, data processing services, and non-flying support of depot-level repairables.	other equipr	nent, data pi	rocessing ser	vices, and n	on-flying su	pport of dep	ot-level repa	airables.	
- (U) \$78,688	Total										
(U) FY 1998 (\$ in Thousands):	Thousands):										
- (U) \$39,518	Financed civilian payroll.	I. 4 travel									
- (U) \$2,902	Financed rental and transportation costs (permanent change of stations (PCS))	sportation co	sts (permane	nt change of	f stations (PC	SS)).					
- (U) \$1,446	Financed communications systems, tools, contract education, and equipment maintenance.	ns systems, to	ols, contract	t education,	and equipme	ent maintena	nce.				
Project 06BS				Page 3 of 9 Pages	9 Pages			Exhib	Exhibit R-2 (PE 0605896F)	3605896F)	
				1245							

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RDT&E BUDGET ITEM JL	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	it	DATE Eshinom, 1007	1007
nt and Support		PE NUMBER AND TITLE 0605896F Base	D TITLE Base Opera	утпе Base Operations - RDT&E		PROJECT 06BS
 (U) \$18,992 Financed supplies, fuels, and miscellaneous contract services. (U) \$2,197 Financed information processing and other equipment, data processing services, and non-flying support of depot-level repairables. (U) \$65,365 Total 	rellaneous contract s and other equipment	ervices.	services, and nor	n-flying support ol	f depot-level repairables.	
 (U) FY 1999 (\$ in Thousands): - (U) \$38,952 Financed civilian payroll. - (U) \$35,952 Financed mission-related travel. - (U) \$2,942 Financed rental and transportation costs (permanent change of stations (PCS)). - (U) \$1,367 Financed communications systems, tools, contract education, and equipment maintenance. - (U) \$17,551 Financed supplies, fuels, and miscellaneous contract services. - (U) \$2,021 Financed information processing and other equipment, data processing services, and non-flying support of depot-level repairables. - (U) \$63,188 Total 	costs (permanent cl s, tools, contract edu ellaneous contract s ind other equipment	nange of stations reations are ervices.	(PCS)). ment maintenan services, and nor	ce. 1-flying support of	`depot-level repairables.	
(U) B. Program Change Summary (S in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 72,898 79,798	FY 1997 80,372 80,372 -1,684	FY 1998 82,138	FY 1999 71,237	Total <u>Cost</u>	
 a. Congressional Adjustments b. Omnibus or Other Above Threshold Reprogram (U) Adjustments to Budget Years Since FY 1997 PB a. Realignment to PE 0605807F (test support content) 	5,776	-1,684	-16,773	-8,049		
b. Requirement vs funding adjustment (U) Current Budget Submit/President's Budget	85,574	78,688	3,860 65,365	-20,740 12,691 63,188		
Project 06BS	Pa	Page 4 of 9 Pages		Ê	Exhibit R-2 (PE 0605896F)	
		1047				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 0605896F Base Operations - RDT&E	PROJECT 06BS
(U) Change Summary Explanation: Funding: FYs 98 and 99 budget adjustments reflect a transfer of test-properly aligns all test support functions into one PE. A thorough sor project across the FYDP (\$3.860M in FY98 and \$12.691M in FY99)	inge Summary Explanation: Funding: FYs 98 and 99 budget adjustments reflect a transfer of test-related services from this project to PE 0605807F (T&E Support), project 06TS. This transfer properly aligns all test support functions into one PE. A thorough scrub of requirements and their associated funding for FYs 98-03 identified adjustments to this project across the FYDP (\$3.860M in FY98 and \$12.691M in FY99).	ect 06TS. This transfer ed adjustments to this
Schedule:		
Technical:		
(U) C. Other Program Funding Summary (\$ in Thousands: Not applicable	Ų.	
Related RDT&E: (U) PE 0605876F, Non-Test Minor Construction (MC) (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS)		
(U) D. Schedule Profile: Not applicable		
Project 06BS	Page 5 of 9 Pages Exhibit R-2 (PE 0605896F)	0605896F)
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1 1	RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	≀-2 Exhi	bit)		DATE Fel	February 1997	197
BUDGET ACTIVITY 6 - Management and Support	and Support			PE NI 060	PE NUMBER AND TITLE 0605896F Base	D TITLE Base Operations - RDT&E	rations -	RDT&E			PROJECT 06CE
COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06CE Other Support (2)		22,792	20,688	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	Articles									i	
(U) A. Mission Descri material systems certific engineering administrati	(U) A. Mission Description and Budget Item Justification: Provides resources for fundamental civil engineering services such as custodial, fire protection, hazar material systems certification, refuse collection, insect and pest control, rentals and leases, architectural and engineering design, grounds maintenance as well as civil engineering administrative costs, including equipment, supplies, temporary duty and civilian pay.	Istification: Provides resources for fundamental civil engineering services such as custodial, fire protection, hazardous sect and pest control, rentals and leases, architectural and engineering design, grounds maintenance as well as civil nent, supplies, temporary duty and civilian pay.	Provides rest ontrol, rentz temporary d	ources for fu ils and lease: luty and civi	ındamental c s, architectur ilian pay.	ivil engineer ral and engin	ring services teering desig	such as cust	todial, fire pr	rotection, ha as well as ci	zardous vil
(U) <u>FY 1996 (\$ in Thousands)</u> : - (U) \$13,430 Financed - (U) \$2,580 Materials - (U) \$6,782 Contract of the contract of the contracts (U) \$22,792 Total	Thousands): Financed in-house workforce. Materials, fuel, supplies, and equipment employed by in-house work force performing civil engineering services. Contract services such as custodial service, supplies, equipment purchases, inspecting/certifying overhead doors, elevators, and annual service contracts. Total	force. and equipme i custodial sei	nt employe rvice, suppli	d by in-hous ies, equipme	e work force int purchases	performing , inspecting/	, civil engine certifying ov	ering service verhead door	es. rs, elevators,	and annual	service
(U) FY 1997 (\$ in Thousands): - (U) \$13,571 Financed - (U) \$2,321 Materials, - (U) \$4,796 Contract s - (U) \$20,688 Total	in-house work fuel, supplies services such a	force. , and equipme is custodial ser	nt employer rvice, suppli	d by in-hous ies, equipme	e work force int purchases	performing , inspecting/	, civil engine certifying ov	ering service	es. rs, elevators,	and annual	service
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$ Not appli - (U) \$0 Total	<u>Thousands):</u> Not applicable. Total										

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(U) FY 1999 (\$ in Thousands):
- (U) \$ Not applicable.
- (U) \$0 Total
(U) B. Program Change Summary (\$ in Thousands)

Project 06CE

Exhibit R-2 (PE 0605896F)

BUDGET ACTIVITY 6 - Management and Support		I EIM JOSTIFICATION SMEET (K-2 EXNIBIT)	K-Z EXNID	2	February 1997	1997
		PE NUMBER AND TITLE 0605896F Base	D TITLE Base Opera	D ТІТLE Base Operations - RDT&E		PROJECT 06CE
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 22,792	FY 1997 21,131 21,131 -443	<u>FY 1998</u> 24,663	<u>FY 1999</u> 25,403	Total <u>Cost</u>	
 a. Congressional Adjustments (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	22,792	-443	-24,663 0	-25,403 0		
(U) Change Summary Explanation: Funding: Other support requirements and funding were transferred to PE 0605879F (Real Property Services) beginning in FY98. These requirements were not related to the test mission. They represented direct support of real property at each of the bases and therefore were transferred to PE 0605879F.	ransferred to PE rect support of re	0605879F (Real aal property at ea	Property Service ch of the bases ar	s) beginning in FY98 nd therefore were tra	 These requirements w nsferred to PE 0605879F 	vere not F.
Schedule: Technical:						
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	Not applicable.					
Related RDT&E: (U) PE 0605876F, Non-Test Minor Construction (MC) (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS)						
(U) D. Schedule Profile: Not applicable.						
Project 06CE	Pag	Page 7 of 9 Pages		Exhib	Exhibit R-2 (PE 0605896F)	

RD.	RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	2-2 Exhi	bit)		DATE FeI	February 1997	766
BUDGET ACTIVITY 6 - Management and Support	nd Support			PE NE	PE NUMBER AND TITLE 0605896F Base	тіт <u>г</u> ase Ope	D TITLE Base Operations - RDT&E	RDT&E			PROJECT 06UT
COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
06UT Operations Of Utilities (3)	ıs (3)	25,866	26,603	0	0	0	0	0	0	0	
Quantity of RDT&E Articles	Articles										
(U) A. Mission Description and sewage treatment plantest mission.	(U) A. <u>Mission Description and Budget Item Justification</u> : Finances purchase of utilities (electricity, natural gas, water and sewage treatment), base operation of water and sewage treatment plants and distribution systems. Amounts of utilities consumed and waste processed for discharge exceed those of other operating bases due to unique test mission.	tification: Fis. Amounts	inances pur of utilities c	chase of util onsumed an	lities (electri d waste proc	city, natural	gas, water at scharge exce	nd sewage tred those of c	eatment), ba	se operation ng bases due	of water to unique
(U) FY 1996 (\$ in Thousands): - (U) \$2,234 Financed - (U) \$20,457 Purchases - (U) \$2,119 Materials - (U) \$1,056 Contract to the contract to th	<u>Thousands</u>): Financed in-house workforce. Purchases utitilities. Materials, fuel, supplies, and contract services such as clear	orce. and equipme cleaning or	nt employed inspecting d	d by in-hous ucts and fue	e work force I tanks and a	orce. and equipment employed by in-house work force performing civil engin cleaning or inspecting ducts and fuel tanks and annual service contracts.	orce. and equipment employed by in-house work force performing civil engineering services. cleaning or inspecting ducts and fuel tanks and annual service contracts.	ering service	S.		
(U) FY 1997 (\$ in Thousands): - (U) \$2,328 Financed - (U) \$20,646 Purchased - (U) \$2,472 Materials, - (U) \$1,157 Contract s - (U) \$26,603 Total	in-house workf utilities. fuel, supplies, ervices such as	orce. and equipme cleaning or i	nt employed nspecting du	l by in-house acts and fuel	e work force tanks and a	performing nnual servic	orce. and equipment employed by in-house work force performing civil engineering services. cleaning or inspecting ducts and fuel tanks and annual service contracts.	ering service	ķ		

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(U) <u>FY 1998 (\$ in Thousands)</u>:
- (U) \$ Not applicable.
- (U) \$0

(U) FY 1999 (\$ in Thousands):
- (U) \$ Not applicable.
- (U) \$0 Total

Project 06UT

Exhibit R-2 (PE 0605896F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R-2 Exhibi	t	DATE February 1997	1997
BUDGET ACTIVITY 6 - Management and Support		PE NUMBER AND TITLE 0605896F Base	ттге Base Opera	р тπ∟е Base Operations - RDT&E		PROJECT 06UT
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value (II) A dinstruents to A propriated Value	FY 1996 25,866	FY 1997 27,173 27,173 -570	FY 1998 27,988	FY 1999 28,828	Total <u>Cost</u>	
a. Congressional Adjustments Adjustments to Budget Years Since FY 1996 PB (U) Current Budget Submit/President's Budget	25,866	-570	-27,988	-28,828 0		
 (U) Change Summary Explanation: Funding: Operations of utilities requirements and funding were transferred to PE 0605879F beginning in FY98. These requirements were not related to the test mission. They represented direct support of real property at each of the bases and therefore were transferred to PE 0605879F. Schedule: Technical: 	were transferre property at each	d to PE 0605879 1 of the bases and	F beginning in F therefore were t	Y98. These requirer ransferred to PE 06	nents were not related t 05879F.	to the test
(U) C. Other Program Funding Summary (\$ in Thousands): Not applicable.	lot applicable.					
Related RDT&E: (U) PE 0605876F, Non-Test Minor Construction (MC) (U) PE 0605878F, Non-Test Maintenance & Repair (RPM) (U) PE 0605879F, Non-Test Real Property Services (RPS)						
(U) D. Schedule Profile: Not applicable.						
Project 06UT	Pag	Page 9 of 9 Pages		Exh	Exhibit R-2 (PE 0605896F	F)
		1251				

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PE NUMBER: 1001004F

UNCLASSIFIED

PE TITLE: International Activities

RDT&E BUDGET II	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fe	February 1997	797
BUDGET ACTIVITY 6 - Management and Support			PE N	PE NUMBER AND TITLE 1001004F Interi	PE NUMBER AND TITLE 1001004F International Activities	nal Activ	ities			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	3,583	3,554	3,715	3,827	3,912	3,991	4,068	4,132	Continuing	TBD
00AH *NATO C3 Agency, NATO (RTO), AFIPSA, ICR&D, AFMC Support	3,583	3,554	0	0	0	0	0	0	0	0
4645 *International Cooperative Research & Development	0	0	3,715	3,827	3,912	3,991	4,068	4,132	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
*The BPAC title was changed and a new project m	mimbar accionad for administrative numbered to constant.	d for admin	ietrotivo num	0000 40 0000	antoles antique	4 410 2042	. 1 1	ı	11-11 1 DAYON 1	

was changed and a new project number assigned for administrative purposes to accurately reflect the nature of work being accomplished. FY97 and prior funding is reflected in BPAC Project 00AH, FY98 and outer years have been reassigned to BPAC Project 4645.

(U) A. Mission Description and Budget Item Justification

The mission of this budget activity is to gain access to our allies best defense technologies, eliminate costly duplication of research and development efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and Allied equipment through international cooperative research and development.

controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are overseas R&D liaison and coordination offices; bilateral and multilateral staff talks; and the Engineering and Scientist Exchange Program (ESEP). Funds NATO Air Force Armaments Group (NAFAG) and Research and Technology Organization formerly Advisory Group for Aerospace Research & Development (AGARD). When the budget The USAF is party to multiple international cooperative agreements to solve common US and Allied military scientific and technological problems and to develop materiel solutions to harmonize coalition requirements. This budget activity funds the Department of the Air Force to support, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer domestic and international technology assessment teams; specialized working groups; long-term technology project developments; support for cooperative opportunity activities were initially realigned, our budget activity was inadvertently changed from BA 6 to BA7, we have now correctly realigned it back to BA 6 Management and assessments; developing, processing, and negotiating international agreements; oversight of International Cooperative Research and Development (ICR&D) projects;

(U) Acquisition Strategy:

Page 1 of 15 Pages

Exhibit R-2 (PE 1001004F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	I JUSTIFICAT	HS NOI	EET (R	-2 Exhit	l e		DATE		
BUDGET ACTIVITY 6 - Management and Support		PE NUI 100'	PE NUMBER AND TITLE 1001004F Interi	PE NUMBER AND TITLE 1001004F International Activities	al Activi	ties		representation	
This program element is the only source of USAF funds to identify and initiate opportunities for international armament's cooperation to (a) deploy and support common or interoperable equipment with our allies; (b) leverage USAF resources with our allies through cost sharing and economies of scale; and (c) exploit the best US and allied technologies for equipping coalition forces. We obtain these benefits only after international cooperative opportunities are identified, explored, developed, assessed and after the international agreements are negotiated and concluded. This program element provides funds to execute up front armaments cooperation responsibilities, rationalize cooperative opportunities, assess allied technologies, and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once these initiatives and programs are started as international efforts they are transferred to the appropriate technology or systems program office and are funded in their own program elements.	to identify and initial AF resources with ou hese benefits only aft cluded. This progran plogies, and generate tional efforts they are	e opportuniti r allies throu er internation n element pre sound, cost-e; transferred	es for intern gh cost shari nal cooperati vides funds tfective coo	ational arma ing and econ ve opportun to execute u perative pro	ment's coop omies of sc ities are idea p front arm grams betwalogy or syst	eration to (ile; and (c) rtiffed, expl aments coop een the USA ems progra	a) deploy and exploit the be ored, develoy peration respont or and our in	st US and all set US and all set, assessed and all subsibilities, ternational part funded in	mon or ed ind rthers.
(U) B. Program Change Summary (\$ in Thousands)									
(U) Appropriated Value	<u>FY 1996</u> 3,713	짋		FY 1998 3,729	FY 1999 3,846	619	Total Cost		
(U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Relow, Threshold Donnowning	-76 -2 -29		-76 -3						
(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	-23 3,583		3,554	-14 3,715	-19 3,827	9			
(U) Change Summary Explanation: Funding: N/A Schedule: N/A Technical: N/A									
(U) C. Other Program Funding Summary (\$ in Thou	Thousands)							I	
(U) N/A (U) D. <u>Schedule Profile</u> (U) See Individual Projects	FY 1996 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To <u>Compl</u>	Total
		Page 2 of 15 Pages	Pages	į		Exhibit	Exhibit R-2 (PE 1001004F)	01004F)	
		1254							

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	R-2 Exhi	bit)		DATE Fet	February 1997	766
BUDGET ACTIVITY 6 - Management and Support			PE NI 100	PE NUMBER AND TITLE 1001004F Interi	тіт <u>і</u> е n ternati o	PE NUMBER AND TITLE 1001004F International Activities	ties			PROJECT 00AH
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
00AH *NATO C3 Agency, NATO (RTO), AFIPSA, ICR&D, AFMC Support	3,583	3,554	0	0	0	0	0	0	0	0
(U) A. Mission Description and Budget Item Jus	ustification									
The mission of this budget activity is to gain access to our allies best defense technologies, eliminate costly duplication of research and development efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and Allied equipment through international cooperative research and development.	to our allies Istain commo	best defense m or interop	technologie: erable USAI	s, eliminate (F and Allied	costly duplic equipment tl	ation of rese hrough interi	arch and dev national coo	relopment ef perative rese	forts, accele arch and	rate
The USAF is party to multiple international cooperative agreements to solve common US and Allied military scientific and technological problems and to develop materiel solutions to harmonize coalition requirements. This budget activity funds the Department of the Air Force to support, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are domestic and international technology assessment teams; specialized working groups; long-term technology project developments; support for cooperative opportunity assessments; developing, processing, and negotiating international agreements; oversight of International Cooperative Research and Development (ICR&D) projects; overseas R&D liaison and coordination offices; bilateral and multilateral staff talks; and the Engineering and Scientist Exchange Program (ESEP). Funds NATO Air Force Armaments Group (NAFAG) and Research and Technology Organization formerly Advisory Group for Aerospace Research & Development (AGARD).	tive agreeme budget activ cors in compl sfer provision ams; speciali i internationi eral and mul mology Orga	infs to solve it funds the lance with st nace with st as, quid-pro- lized working al agreement tilateral staff anization for	common US Department atutory repo quo criteria, ; groups; lon s; oversight? talks; and the merly Advis	and Allied 1 t of the Air F orting provisi industrial bi g-term techn of Internatio he Engineeri	military scieu Force to suptions and exact ase factors, a nology project mal Cooperating and Scieu or Aerospace or Aerospace	ntific and tec yort, develop cting legal st and political- ct developme tive Research tist Exchang	thnological to process, ne atutes, fiscal military interpress, support h and Developmes; Program (construction)	oroblems and gotiate, impl constraints, rests. Incluc for cooperal phenent (ICR ESEP). Fun ant (AGARD)	I to develop lement, and technology ded in this bi tive opportu (&D) projec nds NATO A	materiel manage transfer udget are nity ss;
 (U) <u>FY 1996 (\$ in Thousands)</u>: (U) \$112 SHAPE Technical Center (STC) - Funded US R&D coordination office and administrative support to US engineering and technical professionals assigned to the STC. (U) \$545 Von Karman Institute (VKI)- Funded US share of the VKI budget and awarded two USAF VKI fellowships 	er (STC) - Fi the STC. VKI)- Funde	unded US Ra	&D coording	ation office a udget and av	and administi warded two I	rative suppor	rt to US engi	neering and	technical	. ,

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Project 00AH

Exhibit R-2 (PE 1001004F)

=xhibit)	DATE February 1997
ent an	PROJECT 00AH
- (U) \$500 Advisory Group for Aeriospace R&D (ACARD) - Fully Funded US national-level representation at HQ AGARD Delegates Board. Planded Lechnical profession of the Profession of the Control and US industry/antiversity-level to apport Technical panels. 2) underligations, 21 underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 2) underlineal panels. 3) Remote Sensing. (4) Space Systems Contributions to NATO Defense Shrategy. (5) Advanced Architectures for Mission Aviorinea, (6) Chanced Canadomia. (6) Agard Shrategy. (5) Advanced Architectures for Mission Aviorinea, (6) Chanced Canadomia. (7) Advanced Architectures for Mission Aviorineals. (6) Againg Contention, (10) Advanced Panels, (2) Advanced Architectures for Mission Avioration for Shrategy. (3) Advanced Architectures for Mission Avioration for Shrategy. (3) Advanced Architectures for Mission Avioration for Shrategy Contention, (10) Advanced Panels, (11) Service-Life of Solid Rocket Propellants, (12) Accused Violents, (12) Advanced Panels, (13) Service-Life of Solid Rocket Propellants, (12) Continued the Partnership for Peace initiative through AGARD outreach program incorporating additional Eastern Europe and Former Soviet Union scientific and technical groups.	ARD Delegates Board. Funded working groups, 3 study groups, follows: (1) Minimizing my Targets, (3) Remote Sensing, 25, (6) Characterization and Components, (8) Aging Combat aft of a New Generation, (10) is of Solid Rocket Propellants, (12) d (13) Aircraft Fire Safety. Stern Europe and Former Soviet
Project 00AH Project 00AH Exhibit R-2	Exhibit R-2 (PF 1001004F)
	11.75 (T = 100 1004F)

N	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)
вирбет астіміту 6 - Management and Support	PE NUMBER AND TITLE 1001004F International Activities
- (U) \$230 - (U) \$930	ALF FORCE International Programs Support Agency (AFIRSA -Fully Inted AFIRSA and USAT to reduce the growing backlog of proposas for international Programs Support Agency (AFIRSA -Fully Inted AFIRSA and USAT to reduce the growing backlog of proposas for international Cooperative & & D. Agenements. The following is a list of proposed candidate agreements that were either under development of green in the following is a list of proposed candidate agreements that were either under development of greenent, (2) Crew Technology for Milliary Aircraft (3) Regional/Soctor Air Operations Center Modernization Program. Egypt; Drecklopment Development by Cooperative Modernization Program. Egypt; Drecklopment Agreement, (2) Crew Technology for Milliary Aircraft (3) Regional/Soctor Air Operations Cooperate Amament Avionics Agility, (2) Post 2020 Amament Concepts and Technologies, (3) Tactical Laser Hardread Material, Signed (1) High Powered Microwaves, (2) Aircraft Survivability Technologies, (3) Non-Destructive Evaluation, (4) Insensitive High Explosive for Penetrators, (5) Further Mutitional, Multiwaveform Modular Tactical Read Processing of the Innosphere on Communications and Survivability (2) Subminiature Data Acquisition and Technologies, (3) Tachiques and Technologies (4) Trans-Atlantic Formation Programs and Modeling for Space Weather), Warrellance Systems, (5) Subminiature Data Acquisition and Technology, Space (4) Subminiature Data Acquisition and Technology, Communications and Survivability (2) Multimaters, (3) Multimaters, (4) Effects of the Environment, (2) Milliary Satellite Communications Technology, Germany Development Project (4) Multimaters, (4) Effects of the Innosphere on Communication Trendender Systems, (5) Subminiature Data Acquisition and Analysis of the Infrared Colestial Background, Pakistan: Developed (1) Schmids of Multimaters, Indeed User Aircraft (4) Multimaters, Infrared Standoff Music (5) Operation Multimaters, (6) Multimaters, Infrared Standoff Music (6) Subminiature (6) Standoff Music (6) Datas
Project 00AH	rectors, and the Air Force Techno
Tiologi coluit	rage 3 of 13 rages Exhibit R-2 (PE 1001004F)
	1257

(U) \$1,255 (U) \$1,255 (U) \$3,583 (U) \$3,583 (U) \$110 (U) \$10	PE NUMBER AND TITLE 1001004F International Activities	
- (U) \$1,255 AFMC - Fully funded P required by statute for the NAFAG. Supported Cooperative R&D Progr Coordinating Committee exploratory visits to Fran International Focal Poin international cooperative (U) \$3,583 Total - (U) \$110 NATO C3 Agency (for professionals assigned to professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$110 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (for professionals assigned to the cooperative (U) \$10 NATO C3 Agency (I) NATO C3 Agen		PROJECT
(U) FY 1997 (\$ in Thousands): - (U) \$110 NATO C3 Agency (for professionals assigned to professionals assigned to professionals assigned to professionals assigned to professionals assigned to professionals assigned to professionals assigned to professional to profession	ir Force Material Command active above cited new candidate agree Material Command activities for ams. Funded USAF participation, Standard NATO Agreements Wice, Germany, Israel, United King Officers at Centers and Laborate agreements. This program in ad	rrangements as rt to the Chair of , and NATO dardization Office. Funded nded the ate and staff new st ICR&D efforts.
(7) 5235 NATO Research & Tec Delegates Board. Funds groups, 3 study groups, a approved by the AGARL Aircraft Crashes: Investi Improved Affordability a Integration, (5) Fully Au (7) Advanced Non-Intrus Remote Sensing and Rad Demonstration to Applic Enhancements via Huma incorporating new scienti	NATO C3 Agency (formally STC) - Funds US R&D coordination office and administrative support to US engineering and technical professionals assigned to the NATO C3 Agency. ESEP - Will fund the management oversight of the Engineer and Scientist Exchange Program. NATO Research & Technology Organization (R&TO formerly AGARD) - Fully fund US national-level representation at NATO R&T Degeates Board. Funds technical experts from Air Force field-level and US industry/university-level to support 7 technical panels, 21 working groups, 3 study groups, and 1 study committee sponsored by NATO R&TO. FY97 program of work as endorsed by US National Delegates and Applications, (2) Manned Combat Aircraft-highlights of Future Technological Developments for Improved Affordability and Combat Effectiveness, (3) Aging Combat Aircraft Fleet-Long Term Implications, (4) Helicopter/Weapon System Integration, (5) Fully Automated Conduct Air Traffic Management, (6) Strategic Management of the Cost Problem of Future Weapon Systems, (7) Advanced Non-Intrusive Instrumentation for Propulsion Engines, (8) Multisensors Systems and Data Fusion for Telecommunications, (11) Propulsion, (12) Critical Technology Advances in military Aerospace Support Systems, (13) Operational Enhancements via Human System Technologies. Continues Partnership for Peace initiative through the NATO R&TO outreach program incorporating new scientist and engineers from Central Europe	echnical NATO R&T anels, 21 working onal Delegates and ry Prevention In al Developments for Weapon System Weapon Systems, nunications, ght: From [13) Operational
Project 00AH	Page 6 of 15 Pages Exhibit R-2 (PE 1001004F))1004F)

Activities all Cooperative R&D Agree the ones that were under de the Life Prediction/Extension ures; Canada: (1) Infrared ject, (4) Hard Chrome Alter rediation for the Removal o lonspheric Research Projec attle Damage Repair, (3) D e, (6) Infrared Imaging Spe c; Germany: (1) Administra and Test Methodologies and ay, Denmark): (1) Joint Stri Reliability of Electronic C zakhstan: (1) Seismic Mo and Surveillance Project; (2 zakhstan: (1) Seismic Mo and Surveillance Project; (2 (1) Air Battle Managemen ation and Performance; Rus Vorkload (3) Administration (1) Joint Airborne Naviga Cosmic Radiation Environm is will be started. ight of USAF Foreign Com r Council, NAFAG, and its programs. Funds USAF pa expanded technology acquis ds technical assessments an This PE will also fund pre ne NATO Board of Director	œ.	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Eshinam, 1007
\$1,183	BUDGET ACTIVITY 6 - Management		PROJECT PROJECT
Page 7 of 15 Pages	- (U) \$1,183	AFIPSA - Fully funds AFIPSA to continue clearing the backlog of proposals for International Cooperative R&B a list of candidate agreements for development and signature in FV97 that are in addition to the ones that were in FV96. Australia: (1) Air-Breathing Developed Propulsion Technology, (2) Aging Aircraft Life Prediction/E Turbulence, (4) Navigation Warfare; (5) Aircraft Cargo Loader (6) Adaptive Flexible Structures; Canada: (1) Observable Signatures, (2) Structural integrity of Aging Aircraft, (3) C-130 CALS Filot Project, (4) Hard Chron Defense Environment Generator, (6) E-Beam Cured Composites, (7) Electrochemical Remmediation for the Researc (Germany France, UK, and US): (1) Human Effects of Lasers and Protection, (2) Aircraft Battle Damage Repair (Germany, France, UK, and US): (1) Human Effects of Lasers and Protection, (2) Aircraft Battle Damage Repair (Germany, France, UK, and US): (1) Human Effects of Lasers and Protection, (2) Aircraft Battle Damage Repair (Germany, France (1) Advanced Training Technologies for Aircraft Maintenance, (2) Ducted Rockets; Germany: (1) AE Schange Program (2) Harmolization of Safety Regulations for Defense Material; (3) Ground Test Methodolog Israel (1) Construction and Engineering in the Air Force; Multiateral (Netherlands, Norway, Denmark): (1) Idrad Taget Penetration, (2) Aging Aircraft Structures, IATO: (1) NATO Alliance Ground Surveillance Program; (1) Hard Taget Penetration, (3) US-NAPMO AWACS Modemization Program; (1) Joint Airborne France), (2) Weather Impact Decision Airds (3) Covert All Weather Landing Guidance, (4) Cosmic Radiation Exchange Program; Turkmenismism: (1) Seismic Monitoring Station; Polandi: (1) ESEP, (2) Aircrew Simulation and Performan Scat; Sweden: (1) Master Technology R&D Agreement (2) Pitot Performance and Mental Workload (3) Admin Schaneco, (3) Weather Impact Decision Airds (3) Covert All Weather Landing Guidance, (4) Cosmic Radiation Ermoco, (2) Weather Impact Decision Airds (1) Seismic Monitoring Agreements support and NATO Cooperative R&	D Agreements. The following is under development but not signed actension, (3) Project Refractive infrared Spectral Imaging of Low ne Alternative, (5) Integrated moval of Hazardous Chemicals, h Project Four-Powers r, (3) Distributed Simulation ing Spectro-radiometer, ministration and Professional ites and Support for Aircraft, oint Strike Fighter; Trilateral: ronic Components and mic Monitoring System; Korea: sject; (2) NATO AWACS Midagement and C31; Peoples ce; Russia: (1) K-36 Ejection istration and Professional Navigation and Attack (UK and ruironment and Activation gn Comparative Test Program and its six subgroups to SAF participation at the US-y acquisition contacts and neuts and international fund preliminary and negotiation Directors, and the Air Force
Cact	Project 00AH		R-2 (PE 1001004F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhib	Œ.	DATE February 1997	_
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 1001004F International Activities	TITLE nternation	al Activities	яч 00	PROJECT 00AH
 (U) \$1,234 AFMC - Fully funds Air Force Material Command activities to identify, assess, and develop support packages and project arrangements arequired by statute for the above cited new candidate agreements. Funds Material Command initiatives and technical support to the Chair of the NAFAG. Supports Material Command activities for USAF Foreign Comparative Test and NATO Cooperative R&D Programs. Funds USAF participation in panel meetings of the Technical Cooperation Program, Air Standardization Coordinating Committee, Standard NATO Alliance Ground Surveillance Program Office. Funds exploratory visits to France, Germany, Israel, United Kingdom and other countries on new technology exchange projects. Funds the International Focal Point Officers program officers and project engineers at centers and laboratories in identifying, creating and staffing new international cooperative agreements. This program will, in addition, fund the support, management and documentation of all of the above ICR&D efforts. (U) \$3,554 Total 	greements. Funds agreements. Funds USAF Foreign Com eration Program, Ai round Surveillance I gy exchange projec ying, creating and sy tration of all of the a	Material Comm Material Comm parative Test an r Standardizatic Program Office. is. Funds the In affing new inte	slop support packs and initiatives and NATO Coopers on Coordinating C Funds explorato tternational Focal mational coopera fforts.	ages and project arrangements a d technical support to the Chair ative R&D Programs. Funds U committee, Standard NATO ry visits to France, Germany, Il Point Officers program officer, tive agreements. This program	s of the SAF rael, and will, in
(U) FY 1998 (\$ in Thousands): - (U) \$0 Total					
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$0 Total					
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget 3,713 (U) Appropriated Value	FY 1997 3,633	FY 1998	FY 1999	Total <u>Cost</u>	
(U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR	-76 -3				
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB -23	22 S				
Project 00AH	Page 8 of 15 Pages		ú	Exhibit R-2 (PE 1001004F)	

Per NuMeric Activities Per Numeric Activit	RDT&E BUDGET ITI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	t-2 Exhi	bit)		DATE Feb	February 1997	7
The Thousends) FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Complete to the complete to th	BUDGET ACTIVITY 6 - Management and Support			PE N	UMBER AND	тп.E nternatio	nal Activ	ties			OJECT AH
To Board No. 1996 FY 1997 FY 1998 FY 2000 FY 2001 FY 2002 FY 2003 Compiled by A. 1. 2. 3. 4. 1. 3. 4. 1.		Thousands)									
oard X		FY 1996	FY 1997	FY 1998		FY 2000	FY 2001	FY 2002	FY 2003	To	Total Cost
1 2 3 4 1 2 3 4 FY 1997 FY 1998 X	(U) N/A										
1 2 3 4 1 2 3 4	(U) D. Schedule Profile										
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oard	-VKI Board of Directors	×		i		;					
mittee	-NATO C3 Agency Program Review	×			>						
MoUs X X X X X X X X X X X X X	-Research & Lechnology Delegate Board	Þ	<			<					
Station Board	-Actospace Applications Studies Committee -Bilateral Technology R&D Projects MOUs	< ×		< ×							
ization Board	-Cooperative R&D Projects	×									
ion Board	-Foreign Comparative Testing Prioritization Board		×			×					
x x x x x x x x x x x x x x x x x x x	-NATO Cooperative R&D Prioritization Board	;									
X	-R&D Loans of Defense Equipment	×									
x	-Systems & Technology Forum (JA)	>									
X X X X X X X X X X X X X X X X X X X	-Onier Bliateral Iorums (CA, BZ)	< >			>						
X X X X X X X X X X X X X X X X X X X	-Data/miormation Exchange Annexes -Fnoincer and Scientist Exchanges	< ×			< ×						
X X X X X X X X X X X X X X X X X X X	-NATO Air Force Armaments Group	ļ			×						
X X X X X X X X Page 9 of 15 Pages	-Four-Power Air Senior National	×	×	×		×					
Page 9 of 15 Pages	-Four-Power Long-Term Technology		×	×	×	×					
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	Project 00AH			rage y of	13 Fages			EXUID	1 K-7 (PE 1	JU1004F)	

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RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	R-2 Exhi	bit)		DATE Fe	February 1997	67
BUDGET ACTIVITY 6 - Management and Support			PE NI 100	PE NUMBER AND TITLE 1001004F Interr	PE NUMBER AND TITLE 1001004F International Activities	nal Activ	ities		4	PROJECT 4645
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4645 *International Cooperative Research & Development	0	0	3,715	3,827	3,912	3,991	4,068	4,132	4,132 Continuing	TBD

FY97 and prior year funding is reflected in BPAC Project 00AH, the BPAC title was changed and a new Project Number assigned for administrative purposes to more actively reflect the nature of work being accomplished.

(U) A. Mission Description and Budget Item Justification

The mission of this budget activity is to gain access to our allies best defense technologies, eliminate costly duplication of research and development efforts, accelerate availability of defense systems, and to deploy and sustain common or interoperable USAF and Allied equipment through international cooperative research and development.

controls, intellectual property rights, third party transfer provisions, quid-pro-quo criteria, industrial base factors, and political-military interests. Included in this budget are overseas R&D liaison and coordination offices, bilateral and multilateral staff talks; and the Engineering and Scientist Exchange Program (ESEP). Funds NATO Air Force The USAF is party to multiple international cooperative agreements to solve common US and Allied military scientific and technological problems and to develop materiel solutions to harmonize coalition requirements. This budget activity funds the Department of the Air Force to support, develop, process, negotiate, implement, and manage these international cooperative agreements and projects in compliance with statutory reporting provisions and exacting legal statutes, fiscal constraints, technology transfer domestic and international technology assessment teams; specialized working groups; long-term technology project developments; support for cooperative opportunity assessments; developing, processing, and negotiating international agreements; oversight of International Cooperative Research and Development (ICR&D) projects; Armaments Group (NAFAG) and Research and Technology Organization formerly Advisory Group for Aerospace Research & Development (AGARD).

Justification for Budget Activity Assignment

This program element funds general R&D management for all USAF international cooperative R&D. This includes management support and execution of projects in (1) Basic Research (2) Concept Exploration (3) Demonstration and Validation and (4) Engineering and Manufacturing Development.

Project 4645

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Exhibit R-2 (PE 1001004F)

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) \$110 NATO C3 Agency - Full \$253 ESEP - Funds the Air F approximately ten field Centers in two year toun of Understanding are in AFIPSA - Fully funds , a list of candidate agree Canada: (1) Processing Heat/Cool Avionics, (3) Soldering Process for SI, Aircraft Cockpit Displa CVD Process for II-IV (CVD Process for II-I	US R&D coordination office and administrative support to US professionals assigned to the agency. e execution and the management oversight of the Engineer and Scientist Exchange Program (ESEP). Funds selected European and Asian Government Research Laboratories, Product Centers, Test Centers and Air Logistics selected European and Asian Government Research Laboratories or other Technical Institutions. ESEP Memo ce with 14 countries. Selected European and Asian Government Research Laboratories or other Technical Institutions. ESEP Memo ce with 14 countries. SA to continue clearing the backlog of proposals for International Cooperative R&D Agreements. The follow its for signature in FY98, that are in addition to the one's that were under development but not signed in FY97. High Strain, Low Hysteresis Piezeoelectric and Electrosticitive Materials and Devices for use in Smart Structures uctural Boron Nitride Fiber, (4) Laser Designators, (5) Transportable Satellite Image Terminal, (6) Flux Free Applications, (7) Substitute for Methylene Chloride Paint Strippers, (8) Functionally Integrated Resources (9) Compatibility with Night Vision Imagins, (10) Landing Gear Stability Analysis and Testing, (11) Low Tempera iconductors for Infrared, France: (1) Advanced Combustor Chamber Concepts, (2) Integrated Tactical Aircraf International Precision Airdrop Concept, Germany: (1) Transatlantic Research into Air Combat Engagements (echnology, Japan: (1) Advance Hybrid Tactical Propulsion, (2) Robotics and Mine Clearing Technologies; itoring Agreement, NATO: (1) Air C31 Capabilities, Oman: (1) Seismic Monitoring Agreement, Russia: (1) Air C31 Capabilities; Oman: (1) Seismic Monitoring Agreement, Russia: (1) Air C31 Capabilities, Oman: (1) Seismic Monitoring Agreement, Russia: (1) Air C31 Capabilities, Oman: (2) Metal Matrix Composites for Directed Energies Technology, (5) Navigation Warfare, (6) Multi-Disciplinary Organization to Replace Optimis
Aircraft Cockpit Displace VD Process for II-IV (Control; Four-Power: 2), (2) Hard Target Deft Morocco: (1) Seismic I Master Data Exchange A Management Capabilitie, Aerospace Application, of Aircraft Structures. (U) \$500 NATO Research & Teachemia participation i and reports in the follow Experimental and Comp	Compatibility with Night Vision Imaging, (10) Landing Gear Stability Analysis and Testing, (11) Low Tempera iconductors for Infrared, France: (10) Landing Gear Stability Analysis and Testing, (11) Low Tempera iconductors for Infrared, France: (10) Advanced Combustor Chamber Concepts, (2) Integrated Tactical Aircraf international Precision Airdrop Concept, Germany: (1) Transatlantic Research into Air Combat Engagements (echnology, Japan: (1) Advance Hybrid Tactical Propulsion, (2) Robotics and Mine Clearing Technologies; idoring Agreement, NATO: (1) Air C3I Capabilities; Oman: (1) Seismic Monitoring Agreement, Russia: (1) Ground Collisions Avoidance System for Fighter Aircraft, United Kingdom: (1) Air Bat D3) Integrated Flight/Propulsion Control System Technology Demonstration, (3) Metal Matrix Composites for Directed Energies Technology, (5) Navigation Warfare, (6) Multi-Disciplinary Organization to Replace Optimi
Measurement Technology, (5) Virtual M. Coatings, (8) Advances in Soft Computin Wing Performance, (10) Turbulence in C Impact and Escape System Dummy Spec through the R&T outreach program incor	NATO Research & TechnologyOrganization - Funds US National Delegates participation in the NATO R&T Board and USAF, industry, and academia participation in the R&TO aerospace related panel activity. The FY98 program of work will consist of studies, technical exchanges, and reports in the following areas: (1) Presentation of the Probable Changes in Information Management and Technology, (2) Hypersonic Experimental and Computational Capabilities, (3) Aeromedical Support issues in Contingency Operations, (4) Advanced Aerodynamic Measurement Technology, (5) Virtual Manufacturing, (6) Numerical Unsteady Aerodynamics and Aeroelastic Simulation, (7) Thermal Barrier Coatings, (8) Advances in Soft Computing Technologies Application in Mission Systems, (9) Effect of Rain, Icing and Deicing Systems on Wing Performance, (10) Turbulence in Compressible Flows, (11) Flight Test Instrumentation, (12) Current Concepts and New Developments in Impact and Escape System Dummy Specifications and Instrumentation, (13) Structural Optimization. Continues Partnership for Peace initiative through the R&T outreach program incorporating new scientist and engineers from Central Europe.
Project 4645	Page 11 of 15 Pages Exhibit R-2 (PE 1001004F)

RE	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	
BUDGET ACTIVITY	PE NUMBER AND TITLE	rebruary 1997
6 - Management and Support		4645
766,14 (U) -	and NATO Cooperative R&D Program. Funds USAF participation at the NATO Four-power Council, NAFAG, and its six subgroups to promote NATO cooperative R&D Program. Funds USAF participation at the NATO Four-power Council, NAFAG, and its six subgroups to promote NATO harmonization of requirements, standardization, and new cooperative R&D programs. Fund USAF participation at the US-Japan Systems and Technology Forum, its four sub-groups and the USAF participation in international CALS. Funds expanded technology acquisition contracts and follow-on cooperative opportunities with Russia, Ukraine, and Eastern Europe. Partially funds technical assessments and international agreements negotiation start-up costs associated with promising cooperative R&D programs. This PE will also fund preliminary and negotiation costs associated with USAF NATO cooperative R&D funded programs. Funds support for the NATO Board of Directors, and the Air Force Technology Booth at International Forums.	arative Test Program ix subgroups to cipation at the US- panded technology technical assessments vill also fund
- (U) \$1,234		trangements as sign Comparative Test, gram, Air s periodic bilateral Canada, and other nters and laboratories in national research and ill, in addition, fund
- (U) \$3,715 - (U) FY 1999	ure support, management and documentation of these ICR&D efforts. Total	
	NATO C3 Agency - Fund US R&D coordination office and administrative support to US professionals assigned to the agency. ESEP - Funds the Air Force execution and the management oversight of the Engineer and Scientist Exchange Program (ESEP). Funds approximately ten field level military and civilian scientists from Air Force Laboratories, Product Centers, Test Centers and Air Logistics conters in two year tours at selected European and Asian Government Research Laboratories or other Technical Institutions. ESEP Memoranda	ency. SEP). Funds nd Air Logistics ns. ESEP Memoranda
- (U) \$378	ding are in p 'ork will con iis will inclu	roposed by field
- (U) \$500	assessments. NATO Research & Technology Organization - Continues funding of USAF, industry, and academia participation in the R&T National Delegates Board and aerospace related panel activity according to a program of work to be approved by the National Delegates Board. Continues Partnership for Peace initiative through the R&TO outreach program incorporating new scientist and engineers from Central Europe.	R&T National gates Board.
Project 4645	Page 12 of 15 Pages Exhibit R-2 (PE 1001004F)	1001004F)

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PER NUMBER AND TITLE	R	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
and NATO Cooperative promote NATO harmo Japan Systems and Tea acquisition contracts a and international agree preliminary and negotic Directors, and the Air Directors, and the Air AFMC - Fully funds Arquired by statute for and NATO Cooperative standardization Coordination officers and project enphromote international In This program will, in a This program will will will will will will will wil	BUDGET ACTIVITY 6 - Management		
\$3,827 Total Same and accumentation of these ICK&D efforts the support, management and accumentation of these ICK&D efforts the support of t	- (U) \$1,352 - (U) \$1,242	ICR&D - Funds USAF overseas R&D liaison offices. Fund management support and oversight and NATO Cooperative R&D Program. Funds USAF participation at the NATO Four-power Copromote NATO harmonization of requirements, standardization, and new cooperative R&D program Systems and Technology Forum, its four sub-groups and USAF participation in internation acquisition contracts and follow-on cooperative opportunities with Russia, Ukraine, and Eastern and international agreements negotiation start-up costs associated with promising cooperative Reprehiminary and negotiation costs associated with USAF NATO cooperative R&D funded progra Directors, and the Air Force Technology Booth at International Forums. AFMC - Fully funds Air Force Material Command activities to identify, assess, and develop suprequired by statute for new and existing candidate agreements. Supports Material Command act and NATO Cooperative R&D Programs. Funds USAF participation in panel meetings of the Testandardization Coordinating Committee, Standard NATO Agreements Working Groups, and oth meetings to define new areas of possible cooperation, then fund exploratory visits to France, Genother countries on new technology exchange projects. Funds the International Focal Point Officor officers and project engineers in identifying, creating and staffing new international cooperative promote international research and development cooperation throughout AFMC. Funds small contribute promote international research and development cooperation throughout AFMC. Funds small contributed in the material contributes and the development cooperation throughout AFMC. Funds small contributes and project engineers in identifying, creating and staffing new international cooperative funds that the contribute of the contributes and project engineers in identifying, creating and staffing new international cooperative funds the contribute of the contribute of the contribute of the contribute of the contribute of the contribute of the contribute of the contribute of the contri	ouncil, NAFAG, and its six subgroups to rams. Fund USAF participation at the US-rams. Fund USAF participation at the US-rail CALS. Funds expanded technology Europe. Partially funds technical assessments ED programs. This PE will also fund ms. Funds support for the NATO Board of port packages and project arrangements as vities for the USAF Foreign Comparative Test, shnical Cooperation Program, Air err NATO forums. Funds periodic bilateral many, Israel, United Kingdom, Canada, and ars at Centers and Laboratories to assist program agreements. Funds HQ staff to support and process.
Pana 13 of 15 Dane	- (U) \$3,827	Total	
rake 15 of 15 rakes	Project 4645	Page 13 of 15 Pages	Exhibit R-2 (PE 1001004F)

RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	chibit)	DATE	February 1997
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 1001004F International Activities	tional Activitie		PROJECT 4645
(U) Acquisition Strategy:				
This program element is the only source of USAF funds to identify and initiate opportunities for international armament's cooperation to (a) deploy and support common or interoperable equipment with our allies; (b) leverage USAF resources with our allies through cost sharing and economies of scale; and (c) exploit the best US and allied technologies for equipping coalition forces. We obtain these benefits only after international cooperative opportunities are identified, explored, developed, assessed and after the international agreements are negotiated and concluded. This program element provides funds to execute up front armaments cooperation responsibilities, rationalize cooperative opportunities, assess allied technologies, and generate sound, cost-effective cooperative programs between the USAF and our international partners. Once these initiatives and programs are started as international efforts they are transferred to the appropriate technology or systems program office and are funded in their own program elements.	inds to identify and initiate opportunities for international armament's cooperation to (a) deploy and support conditions with our allies through cost sharing and economies of scale; and (c) exploit the best US and ain these benefits only after international cooperative opportunities are identified, explored, developed, assesse concluded. This program element provides funds to execute up front armaments cooperation responsibilities, chnologies, and generate sound, cost-effective cooperative programs between the USAF and our international ernational efforts they are transferred to the appropriate technology or systems program office and are funded ernational	armament's coopera economies of scale; ortunities are identifi cute up front armame e programs between	tion to (a) deploy and and (c) exploit the be ed, explored, developents cooperation response USAF and our into sprogram office and a	support common o st US and allied ed, assessed and nsibilities, ernational partners.
(U) B. Program Change Summary (\$ in Thousands)	FV1996 FV1007	EV 1000	0001 751	. (
(U) Appropriated Value		$\frac{FY}{3,729}$	$\frac{\text{FY } 1999}{3,846}$	<u>Total Cost</u>
a. Cong General Reductions				
c. Omnibus or other above reprogramming threshold d. Below threshold reprogramming				
(U) Adjustments to budget years since FY97 PB(U) Current Budget Submit/President's Budget(U) Change Summary Explanation:		-14 3,715	-19 3,827	
Funding: N/A Schedule: N/A Technical: N/A				
(U) C. Other Program Funding				
Related RDT&E:				
Project 4645	Page 14 of 15 Pages		Exhibit R-2 (PE 1001004E)	040045)
	1266			
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RDT&E BUDGET ITEM JUSTIFICATI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	oit)		DATE Fel	February 1997	1997	
BUDGET ACTIVITY 6 - Management and Support	PE NUMBER AND TITLE 1001004F International Activities	ial Activitie	,			РВОЈЕСТ 4645	
(U) This program provides for USAF management of NATO Cooperative R&D funded by DoD (PE 0603790D) and USAF (PE 0603790F) and DoD funded Foreign Comparative Test (FCT) (PE 0605130D) programs. It also provides international agreement support for 6.1 through 6.3 programs for USAF Laboratories and for 6.4 through 6.5 programs for USAF Product and Logistics Centers.	funded by DoD (PE 0603790D) a l agreement support for 6.1 throu	nd USAF (PE 0 th 6.3 programs	603790F) for USAI	and DoD	funded Fo	reign r 6.4	
(U) D. <u>Schedule Profile</u> FY 1996 1 2 3	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{\text{FY 1998}}{2}$	3 4	-	FY 1999 2 3	4	
- NATO C3 Agency Program Review - Research & Technology Delegate Board - Aerospace Applications Studies Committee - Bilateral Technology R&D Proiects MOUs		× × ××	×	××××	××	××	
-Cooperative R&D Projects -Foreign Comparative Testing Prioritization Board -NATO Connerative R&D Prioritization Board		×	× ×××	×	×××	×	
-NATO Air Force Armaments Cooperative Nach Prioritization Board -National Section of Defense Equipment -Systems & Technology Forum (JA) -Other Bilateral forums (CA, BZ) -Data/Information Exchange Annexes -Engineer and Scientist Exchanges -NATO Air Force Armaments Group -Four-Power Air Senior National				× ××× ×			
-Four-Power Long-Term Technology		×	×		×	×	
Project 4645	Page 15 of 15 Pages		Exhibit	Exhibit R-2 (PE 1001004F)	001004F		٦
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PE NUMBER: 01011113F PE TITLE: B-52 Squadrons

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RDT&E BUDGET IT	EM JUS	TIFICA	TION S	HEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fel	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development			PE NI 010	PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	Idrons				
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	19,870	10,612	3,427	3,765	0	0	0	0	0	37,674
4401 Air Force Mission Support System	2,801	5,200	948	0	0	0	0	0	0	8,949
4370 Advanced Weapons Integration	3,832	6	2,479	3,765	0	0	0	0	0	10,076
4371 Global Positioning System TACAN Emulation	8,866	0	0	0	0	0	0	0	0	8,866
4402 Electronic Countermeasures Improvement	0	4,818	0	0	0	0	0	0	0	4,818
4493 B-61 Mod 11 Flight Tests	4,371	594	0	0	0	0	0	0	0	4,965
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

with a long range strike capability. The B-52 is undergoing a Conventional Enhancement Modification which allows it to carry MIL-STD 1760 weapons. The current Emulation provides support to the Congressionally-directed GPS-2000. Electronic Countermeasures Improvement supports a DESERT STORM identified deficiency. addition of the Wind Corrected Munitions Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint Air-to-Surface primary nuclear roled bomber in the USAF inventory. It provides the only Air Launch Cruise Missile carriage in the USAF. The B-52 also provides theater CINCs This program is in budget activity 7 - Operational System Development, Research Category 6.6 because it supports a currently operational system. The B-52 is the Stand-off Missile (JASSM). The Air Force Mission Support System supports the Air Force movement of all mission planning to a common system. GPS TACAN The B-61 Mod 11 program was added at the direction of the Nuclear Posture Review and Presidential Decision Directive-30. The B-52 program management is service life of the aircraft extends to 2040. The Advanced Weapons Integration (AWI) program supports the conventional enhancement of the B-52 through the provided by Air Force Material Command's Oklahoma Air Logistics Center. The prime contractor for these projects is Boeing Defense and Space Group.

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Exhibit R-2 (PE 0101113F)

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RDT&E BUDGET ITEM JUS	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	(t)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	rons	
 Acquisition Strategy: The AFMSS program is organically conducted at OC-ALC/LAS. Previously funded by the AFMSS program element. The AFMSS program is organically conducted at OC-ALC/LAS. Previously funded by the AFMSS program element. The AFMSS program is organically conducted at OC-ALC/LAS. Previously Wichita KS, (BD&SG) on a Cost-Plus-Fixed-Fee contract as the Product Development of Development and initial software requirements definition is being accomplished under the Support observer; a time and materials contract. The first phase will be to support the Direct Attack Stores Management Overlay (SMO) Development B-S2 fleet support contract; a time and materials contract. The first phase will be to support the Direct Attack SMO and JAM. The second phase will support the Direct Attack SMO and JAM. The second phase will support the DIREE of the Stand-off SMO. The Stand-off SMO supports JSOW and JASSM. Due to the need for rapid Required Assets Availability and Initial Operational Capability dates, the Single Acquisition and Management Plan directed concurrence for RDT&E of the Direct Attack SMO and the production hardware (MIL-STD 1760 umbilicals to transfer 1760 data from the weapons pylon to the weapon itself). Although production continues through development of the Stand-off SMO, development of the production materials is completed in FY 97. JSOW and JASSM will use the same umbilicals as WCMD and JDAM. The GPS TACAN program placed Boeing Defense and Space Group, Wichita, KS and ITT Avionics Nutley, NJ on Firm-Fixed-Price contracts as Product Development Organizations. Boeing provides the aircraft specific integration expertise, while ITT provides expertise on the ALQ-172 system. They are supported by OC-ALC/LM and WR-ALC/LM. The Department of Energy is organically conducting the modifications to the B-61 Mod 11 weapon. 	and Space Group, Wichita KS, (BD&SG) on a Cost-Plus-Fixed-Fee contractor notice requirement, interface development and initial software requirementerials contract. The first phase will be to support the Direct Attack Stores Not hardware interface equipment. The Direct Attack SMO supports WCMD and-off SMO supports JSOW and JASSM. Due to the need for rapid Required Management Plan directed concurrence for RDT&E of the Direct Attack on the weapons pylon to the weapon itself). Although production continues the scompleted in FY 97. JSOW and JASSM will use the same umbilicals as W Defense and Space Group, Wichita, KS on a Firm-Fixed-Price contract as the N. N. oeing Defense and Space Group, Wichita, KS and ITT Avionics Nutley, NJ ides the aircraft specific integration expertise, while ITT provides expertise conducting the modifications to the B-61 Mod 11 weapon.	sly funded by th (BD&SG) on a cavelopment at will be to support. The Direct Att de JASSM. Due mourrence for R on itself). Alth and JASSM will thita, KS on a Fig., Wichita, KS at tion expertise, when B-61 Mod I	e AFMSS progra Cost-Plus-Fixed-I d initial software tr the Direct Atta ack SMO suppor to the need for ra DT&E of the Dir ough production ise the same umb m-Fixed-Price co ad ITT Avionics hile ITT provide weapon.	m element. Fee contract as the requirements deck Stores Manag. ts WCMD and JI pid Required Assect Attack SMO is continues through ilicals as WCMD ontract as the Pronutest, NJ on Fir s expertise on the	Product Development Organization finition is being accomplished under thement Overlay (SMO) Developmental AAM. The second phase will support ets Availability and Initial Operational and the production hardware (MIL-STI development of the Stand-off SMO, and JDAM. Inct Development Organization, m-Fixed-Price contracts as Product ALQ-172 system. They are supported
(U) B. Program Change Summary (S in Thousands)					
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 16,505 21,005	FY 1997 7,457 11,035	<u>FY 1998</u> 955	FY 1999 0	Total
 a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	-1,129 0 0 0 19,870	-231 -192 10,612	2,472	3,765 3,765	37,674
	Pag	Page 2 of 24 Pages		Ш	Exhibit R-2 (PE 0101113F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHE	ET (R-2 Exhi	lbit)	DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AN 0101113F	PE NUMBER AND TITLE 0101113F B-52 Squadrons	adrons			
 (U) Change Summary Explanation: Funding: FY 96 Congressional Appropriations added \$4.5M for AGM-130 Integration. Since Air Combat Command did not have a requirement to integrate the AGM-130 on the B-52 Congress authorized the Air Force to transfer these funds into the B-62 Mod 11 program. FY 98 PB adds \$2.5M to FY 98 and \$3.8M to FY 99 for Advanced Weapons Integration. 	AGM-130 Integral rce to transfer these	ion. Since Air Com's funds into the B-62	bat Command did Mod 11 program.	not have a r FY 98 PB	equirement to inte adds \$2.5M to FY	grate the 98 and
Schedule: None						
Technical: None						
(U) C. Other Program Funding Summary (S in Thousands)						
(U) Aircraft Procurement (PE 11113F)	FY 1998 28,854 0	$ \begin{array}{c cc} \hline FY 1999 & FY 2000 \\ \hline 61,641 & 43,039 \\ 0 & 0 \\ 0 & 0 \end{array} $	FY 2001 34,241 0	FY 2002 FY 20,953 0	FY 2003 Compl 6,779 0 0 n/a 0 n/a	Total Cost 209,054 3,857 180
(U) D. Schedule Profile						
EY 1997 (U) WCMD/JDAM IOC (II) GPS TACAN IOC	FY 1998 1 2 3	<u>3</u> 4 1	FY 1999 2 3	4	$\frac{\text{FY } 2000}{2}$	4
(U) B-61 Mod 11 Flight Test Completed			<		×	
	Page 3 of 24 Pages	ages		Exhibit R-2	Exhibit R-2 (PE 0101113F)	

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RDT&E BUDGET IT		TIFICA	TION S	HEET (F	EM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE	February 1997	397
виреет Астилт 7 - Operational System Developmen	nt .		PE NI 010	PE NUMBER AND TITLE 0101113F B-52	о ппс B-52 Squadrons	adrons		2	and and a	PROJECT 4401
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4401 Air Force Mission Support System	2,801	5,200	948	0	0	0	0	0	0	8,949
(U) A. <u>Mission Description and Budget Item Justification</u> Air Force Mission Support System (AFMSS) previously funded out of the AFMSS program element. Develops an aircraft specific avionics/weapons/electronic countermeasures (A/W/E) module to be used in conjunction with core AFMSS. AFMSS is the replacement mission planning system for the current B-52 Mission Data Preparation System. AFMSS will provide future ground/inflight mission planning capability. Block 1 provides the capability to plan conventional gravity missions at the unit level. Block 2 provides the capability to plan nuclear and advanced weapons via AFMSS. Block 3 of this project will add smart weapons (like JDAM and JASSM) capabilities and enhancements to the first two AFMSS blocks. Provides funding for the Periodic Depot Maintenance of the B-52 test aircraft stationed at Edwards Air Force Base.	ustification iously funded mjunction with ground/inflight muclear and a ASS blocks. F	out of the A h core AFM! t mission pla dyanced wea rovides func	FMSS progr SS. AFMSS nning capab pons via AF	ram element. is the replacility. Block 'MSS. Blocl Periodic Dep	. Develops a cement missi 1 provides the \$\text{K}\$ of this proof Maintena 1 provides the \$\text{M}\$ of \$\text{M}\$ and \$	an aircraft sp on planning he capability oject will ad nce of the B	ecific avioni system for t to plan conid smart wea -52 test airci	ics/weapons/ the current B ventional gr; pons (like JI raft stationed	electronic 1-52 Mission avity mission DAM and JA 1 at Edwards	Data ns at the SSM) Air Force
(U) FY 1996 (\$ in Thousands): - (U) \$2,801 Support WCMD and JDAM flight test with Block 1.3 engineering release - (U) \$2,801 Total	AM flight tes	t with Block	1.3 enginee	ring release						
 (U) FY 1997 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$\frac{\psi}{\psi}\$,200 Develop Block 2 operational software for WCMD and JDAM, and PDM for the B-52 test aircraft (U) \$\frac{\psi}{\psi}\$,200 Total 	ional software	for WCMD	and JDAM,	and PDM fe	or the B-52 to	est aircraft				
 (U) <u>FY 1998 (\$ in Thousands)</u>: (U) \$948 Develop Block 3 operational software for JSOW and JASSM, and other advanced weapons, as required (U) \$948 Total 	ional software	for JSOW a	nd JASSM,	and other ad	lvanced wear	oons, as requ	iired			
Project 4401			Page 4 of 24 Pages	4 Pages			Exhibi	Exhibit R-2 (PE 0101113F)	101113F)	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICATION	N SHEET	(R-2 Ex	hibit)		DATE	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0101113F B-52	4D ТІТLE B-52 Squadrons	uadro	รน		PROJECT 4401	CT
(U) B. Program Change Summary (\$ in Thousands)								
						Total	11	-
	FY 1996	FY 1997	FY 1998	∞ı	FY 1999	Cost	**1	
(U) Previous President's Budget	2,983	5,507	951	1	0	6,32(0	
(U) Appropriated Value	2,983	5,507		0	0	8,490	0	
(U) Adjustments to Appropriated Value								
a. Cong Reductions	-182	0		0	0	-182	2	
b. SBIR	0	0		0	0		0	_
c. Omnibus or Other Above Threshold Reprogram	0	0		0	0		0	_
d. Below Threshold Reprogramming	0	0		0	0	J	0	
(U) Adjustments to Budget Years Since FY 1997 PB	-182	-307	1	ر غ	0	-492	2	_
(U) Current Budget Submit/President's Budget	2,801	5,200	948	∞	0	8,949	6	
(U) Change Summary Explanation: Funding: \$3,121 added to FY97 budget to support Perioc	dic Depot Main	to support Periodic Depot Maintenance of the B-52 test aircraft.	52 test aircr	if.				
Schedule: None								
Technical: None								
(U) C. Other Program Funding Summary (\$ in Thousands) - not applicable	- not applicabl	Ð						
(U) D. Schedule Profile								
The B-52 peculiar mission planning software development is accomplished and delivered incrementally. Each work package within a block build is treated as a minidevelopment with its own analysis, design, and test. The work package are integrated with one another and with the AFMSS core. Requirements are continually evolving,	omplished and cackage are integ	lelivered increme rated with one ar	ntally. Each	work paith the Al	ckage withi	n a block bui Requiremen	ld is treated as a minits are continually evolvi	ng,
however, the program is geared to complete known requirements by Sep 98	by Sep 98.							
<u>FY 1996</u>		FY 1997	•	•	FY 1998	•		
(U) Contract award Block 2	* ×	7	1		o	t	J. C. 4	
(U) Software development Block 2	×	×	×	×				
(U) Contract award Block 3			×					_
(U) Software development Block 3				×	×	×		_
(U) Test aircraft PDM	×							
Project 4401	Pa	Page 5 of 24 Pages				Exhibit R-2	Exhibit R-2 (PE 0101113F)	
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RE	RDT&E PROGRAM EL	SRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	REAKD	OWN (R-	3)	DATE F .	February 1997	97
BUDGET ACTIVITY 7 - Operational System Developmen	al System Do	evelopmen	īt		PE NUMBE 010111	PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	ø.		9 4	PROJECT 4401
(U) A. Project Cost Breakdown (§ in Thousand	ost Breakdown (S in Thousand	(5)								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Software development(U) System Program Office support(U) OC-ALC/LH Program Depot Maintenance(U) Total	elopment am Office support Program Depot N	t faintenance		2,751 50 0 2,801		2,050 50 3,100 5,200	885 63 0 948		000		
(U) B. Budget Acquisition History and Planning	cquisition Histor	y and Plannin	g Information	g Information (\$ in Thousands)	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	ent Organizations										=
Oklahoma ALC/LAS	Project Order			5,686	0	2,751	2,050	885	0	n/a	5,686
Support and Management Organizations OC-ALC/LH Project order OC-ALC/LH Project order	<u>gement Organizat</u> Project order Project order	ions		163 3,100	0	50	3,100	63	0	n/a	3,263
Test and Evaluation Organizations OO-ALC/LIRC compatability USAFAWC/28 flight testing TESTS Project order	on Organizations compatability flight testing Project order										
Project 4401				ď	Page 6 of 24 Pages	300		<u>.</u>	EVbihit D. 3 (DE 0404442E)	040449E)	
1011100011					100,000	S C C		Z.	ווחון ה-ט ורוב	0101113F)	

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RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	2-2 Exhi	bit)		DATE Fel	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	· ·		PE NI 010	PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	drons			σ 4	РКОЈЕСТ 4370
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4370 Advanced Weapons Integration	3,832	0	2,479	3,765	0	0	0	0	0	10,076

(U) A. Mission Description and Budget Item Justification

Dispenser (WCMD), Joint Direct Attack Munition (JDAM), Joint Stand-off Weapon (JSOW), and the Joint-Air-to-Surface Stand-off Missile (JASSM). The B-52 is designated as the threshold bomber test platform for WCMD, JDAM, and JASSM with the objective of meeting aircraft integration and weapon testing requirements. To provide complete understanding of the program and its funding, the following schedule information will reflect the money received from the WCMD, JDAM, and JASSM The requirement exists for the integration of near precision and precision guided MIL-STD 1760 weapons on the B-52. This includes the Wind Corrected Munitions program elements for weapons integration on the B-52.

- (U) FY 1996 (\$ in Thousands):
- Software requirements for WCMD and JDAM. Hardware requirements for WCMD, JDAM, JSOW, and JASSM. (U) \$3,832
 - (U) \$3,832
- (U) FY 1997 (\$ in Thousands):
 - Total 0\$ (n)
- (U) FY 1998 (\$ in Thousands):
- Software development for JSOW and JASSM Total (U) \$2,479 (U) \$2,479
- Software development for JSOW and JASSM
- (U) FY 1999 (\$ in Thousands):
- Total (U) \$3,765 (U) \$3,765

Page 7 of 24 Pages

Project 4370

Exhibit R-2 (PE 0101113F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	USTIFICAT	TION SH	EET (R	-2 Exhit	jŧ)		DATE Feb	February 1997	[2
BUDGET ACTIVITY 7 - Operational System Development		PE NUI 010	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	drons			PR 43	РВОЈЕСТ 4370
(U) B. Program Change Summary (\$ in Thousands)									
	FY 1996		FY 1997	FY 1998	FY 1999	6	Total Cost		
(U) Previous President's Budget	3,977		0	2,489	3,784	1 7	10,250		
(U) Appropriated Value	3,900	_	0	0		0	3,900		
a. Cong Reductions	89-	~~	0	0		c	-68		
b. SBIR	; •	0	0	0		0	9 0		
c. Omnibus or Other Above Threshold Reprogram	0	•	0	0		0	0		
		0	0	0 ;	•	0	0		
(U) Adjustments to Budget Years Since FY 1997 PB(U) Current Budget Submit/President's Budget	0 3,832	.	00	-10 2,479	91- 3,765	-19 765	6,176 10,076		
(U) Change Summary Explanation: Funding: FY 96 -\$68K Undistributed Congressions	gressional Reductions.								
Schedule: None									
Technical: None									
(U) C. Other Program Funding Summary (\$\sqrt{s}\$ in Thousands)	(spi								
FY 1996	1996 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Cost
		0	0	0	0	0	0	n/a n/a	11,635
(U) RDT&E (JASSM - PE 27160F) 1,3 (U) Aircraft Procurement (PE 11113F)	1,500 8,500 0 4,181	8,000 6,600	3,400 5,100	00	0 0	00	00	n/a n/a	21,400 15,881
Project 4370		Page 8 of 24 Pages	4 Pages			Exhib	Exhibit R-2 (PE 0101113F)	01113F)	
		1276							

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RDT&E BUDGET		M	USTI	FICA	NOL	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET (F	₹-2 E	xhibi	₽			DATE F	February 1997	ry 199	<u>×</u>
BUDGET ACTIVITY 7 - Operational System Developme	pment					PE NUMBER AND TITLE 0101113F B-52	ER AND	717LE 3-52 S	D TITLE B-52 Squadrons	rons					H 4	PROJECT 4370
(U) D. Schedule Profile					1											
	•	ĘŹ,	FY 1996	•	-	FY 1997	<u>997</u>	•	-	FY 1998	866	~	-	FY 1999	<u>666</u>	•
(U) Direct Attack SMO		7	c	4	-	7	n	4	-	7	n	4		7	n	4
(U) Software/hardware Req DT&E	×	×	×		;	i										
(U) Test planning	×	×	×	× >	× >	×	>	>								
(U) Ground/flight testing			×	<	<	< ×	< ×	< ×								
	×	×	×	×	×	×	×	×								
(U) Program office support	×	×	×	×	×	×	×	×								
			;	;												
(U) Contractor Interface Development	>	>	< >	× >	>	>	×	×								
	<	<	<	< ×	: ×	: ×	: ×	< ×	×	×						
(U) Technical data development							×	×	×							
(U) Ground/flight testing							×	×			×	×	×	×	×	×
							×	×	×	×	×	×	×	×	×	×
(U) Program support office					×	×	×	×	×	×	×	×	×	×	×	×

Project 4370					Page	Page 9 of 24 Pages	ages					Exhibit	R-2 (Pi	Exhibit R-2 (PE 0101113F)	13F)	

R	RDT&E PROGRAM EL	GRAM EI	LEMENT/PROJECT COST BREAKDOWN (R-3)	PROJEC	120	ST BR	EAKDO	OWN (R-	3)	DATE F.	February 1997	266
BUDGET ACTIVITY 7 - Operation	BUDGET ACTIVITY 7 - Operational System Development	evelopme	nt		원 6	PE NUMBER AND TITLE 0101113F B-52	ND TITLE	ID TITLE B-52 Squadrons				PROJЕСТ 4370
(U) A. Project ((U) A. <u>Project Cost Breakdown (\$ in Thousand</u>	(\$ in Thousan	(sp									
(U) Software/har	(U) Software/hardware requirements	ıts		FY	FY 1996 3,832	FY 1997	0 0	FY 1998 2,479	FY 1999 3,765	61 K		
(U) B. Budget A	(U) B. Budget Acquisition History and Planning	ry and Planni	3,922. ng Information (\$ in Thousands)	S in Thou	sands)		>	4,7	3,70	0		
Performing Organizations:	anizations:											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Pri	Total Prior to	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing Defense and Space Group CPFF Wichita, KS	nent Organization CPFF	ωj	10,076	0	_	0	3,832	0	2,479	3,765	n/a	10,076
Support and Management Organizations	agement Organiza	tions										
Test and Evaluation Organizations	on Organizations											
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	equisition Histor	y and Plannir	ig Information	Continued	(\$ in The	onsands)						
Government Furnished Property: None	nished Property:	None										
Project 4370					Page 10 o	Page 10 of 24 Pages	'n		Exh	Exhibit R-3 (PE 0101113F)	0101113F)	
					1278	8/						

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	79
BUDGET ACTIVITY 7 - Operational System Development	ıt		PE NI 010	PE NUMBER AND TITLE 0101113F B-52 Squadrons	TITLE 1-52 Squ	adrons			4	РВОЈЕСТ 4371
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4371 Global Positioning System TACAN Emulation	8,866	0	0	0	0	0	0	0	0	8,866
(U) A. Mission Description and Budget Item Justification GPS TACAN Emulation includes installation of a Control Display Unit (CDU) at the pilot and copilot stations and the integration of concurrent TACAN capabilities into the on-board GPS system. The TACAN Replacement System (TRS) will satisfy current TACAN emulation requirements directed by Congressional mandate and provide an architecture to expand/increase navigational capabilities/requirements planned by FAA and International Civil Organization bodies. The system allows the crew to fly a non-precision approach using the GPS constellation for navigation guidance. In addition, as an open architecture system, it can be easily upgraded to allow precision approaches when standards are established.	Justification on Control Display Unit (CDU) at the pilot and copilot stations and the integration of concurrent TACAN capabilitient Replacement System (TRS) will satisfy current TACAN emulation requirements directed by Congressional mandate a navigational capabilities/requirements planned by FAA and International Civil Organization bodies. The system allows the GPS constellation for navigation guidance. In addition, as an open architecture system, it can be easily upgraded to are established.	Display Unit ystem (TRS) abilities/requ	(CDU) at the will satisfy irements pla	e pilot and c current TA(nned by FA lance. In ad	opilot station CAN emulat A and Interr dition, as an	ns and the inion requirem intional Civil	legration of ents directe Organizatic cture system	concurrent 1 d by Congre on bodies. Tl i, it can be e	FACAN caps ssional manc he system all asily upgrad	bilities ate and ows the
(U) FY 1996 (\$ in Thousands): - (U) \$1,281 System Requirement Review completion - (U) \$100 Preliminary Design Review - (U) \$1,900 Fabrication of Jab demonstration system - (U) \$3,300 Fabrication of prototype unit - (U) \$2,000 Fabrication of prototype unit - (U) \$85 Critical Design Review - (U) \$86 Total	view complet ew Istration syste ock-up unit	uoi u								
(U) <u>FY 1997 (\$ in Thousands):</u> – (U) \$0 No activity										-
(U) <u>FY 1998 (\$ in Thousands):</u> – (U) \$0 No activity										
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) \$0 No activity										
(U) B. Program Change Summary (\$ in Thousan	sands)									
Project 4371			Page 11 of 24 Pages	4 Pages			Exhibit	Exhibit R-2 (PE 0101113F)	101113F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhit	19		DATE	4001 1001	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	drons			PROJECT 4371	5
					Total		
(II) Previous President's Budget	FY 1997	FY 1998	FY 1999	~ !	Cost		
	0	0	0	_	9,545		
(U) Adjustments to Appropriated Value	0	0	0	_	9,360		
	•	•	,				
h SBIR	o (0	0	_	-494		
	0	0	0	_	0		
d Keprogram	0	0	0	_	0		
	0	0	0	_	0		
77 PB	0	0	0	_	-494		
(U) Current Budget Submit/President's Budget 8,866	0	0	0	_	8,866		
(U) Change Summary Explanation: Funding: \$494 taken in FY 96 for Undistributed Congressional Reductions and bills to pay for Bosnia operations.	ions and bills to pay	for Bosnia ope	rations.				
Schedule: Schedule changes were necessary to provide concurrent RDT&E with GPS Line-Replaceable-Units (LRU) redesign effort. The requirement for 24 additional aircraft to receive NAVSTAR GPS provoked re-design of key Group B LRUs. The TRS new start provided an opportunity to combine the two efforts, reducing additional LRUs originally planned for TRS and incorporating requirements into a single, integrated design. Thus, instead of designing and fielding two separate systems (GPS and TRS), the software and hardware requirements will be integrated. Reducing engineering time and independent costs associated with each program.	T&E with GPS Line- lesign of key Group TRS and incorporat , the software and ha	Replaceable-UB LRUs. The ing requiremental requiremental and ware requiremental requir	Inits (LRU) re TRS new star its into a sing	edesign ef t provided ;le, integra integrate	fort. The request an opportunit ted design. Tied design. Tied design. Tied design.	irement for 24 y to combine th us, instead of ngineering time	e and
Technical: Technical changes include eliminating the requirement for a separate Interface Unit for TACAN and integrating TACAN system requirements in the GPS Interface Unit, currently installed on NAVSTAR GPS equipped aircraft. This also eliminates the requirement for a Signal Data Converter to interface the GPS and TRS. The majority of the TRS program requirements will affect software integration. The hardware requirements are essentially CDUs at the pilot and copilot positions and associated Group A necessary for installation.	separate Interface U equipped aircraft. T am requirements wil tp A necessary for in	Juit for TACA] This also elimin Il affect softwa Istallation.	N and integra lates the requ re integration	ting TAC, irement fo The har	AN system req r a Signal Dati dware requirer	uirements in the 1 Converter to nents are essent	ially
(U) C. Other Program Funding Summary (\$ in Thousands)							
(U) Aircraft Procurement (PE 11113F) (PS 11115F) (PS 11115F) (PS 1115F) (PS 1115F) (PS 11113F) (PS 1115F) FY 1998 FY 1999	FY 2000 4.662	FY 2001 I	FY 2002	FY 2003	ć	Total Cost	
(U) D. Schedule Profile			,	>		p 21	707,
	Page 12 of 24 Pages			Exhibi	Exhibit R-2 (PE 0101113E)	1413E)	
	1280					101	1

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHEET	(R-2 Exh	libit)		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	ı,		PE NUMBER AND TITLE 0101113F B-52	4D TITLE B-52 Squadrons	ladrons				PROJECT 4371
(U) Contract award (U) System Requirement Review documentation (U) Human resource interface on equipment placement	FY 1996 2 3 X X X	4	FY 1997 2 3	4	FY 2	FY 1998 2 3	4	FY 1999 2 3	4
 (U) Freinminary Design Kevlew (U) Fabrication of upgraded development at contractor support facilities (U) Critical Design Review (U) Development of prototype unit (U) Ground/flight testing 	*	×	× × ×	×	×	×			
Project 4371		Dan	Page 13 of 24 Pages			ú	thibit R-2 (F	Exhibit R-2 (PE 0101113E)	

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R	RDT&E PROGRAM EL	GRAM EL		EMENT/PROJECT		3REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	260
BUDGET ACTIVITY 7 - Operation	вирсет Астіvіту 7 - Operational System Development	evelopme	nt		PE NUMBER AN 0101113F		ס דודנב B-52 Squadrons	ø		9 4	PROJECT 4371
(U) A. Project Cost Breakdown (\$ in Thousands)	Cost Breakdown	(S in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999			
 (U) System Requirement Rev (U) Preliminary Design Rev (U) Fabrication of lab demc (U) Fabrication of system in (U) Fabrication of prototyp (U) Critical Design Review (U) Test and evaluation (U) Total 	(U) System Requirement Review completion (U) Preliminary Design Review completion (U) Fabrication of lab demonstration system (U) Fabrication of system mock-up (U) Fabrication of prototype unit (U) Critical Design Review (U) Test and evaluation (U) Total	completion ampletion on system o		1,281 100 1,900 3,300 2,000 85 85 8,866	,281 100 900 3300 85 85 866						
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Performing Organizations:	cquisition Histor mizations:	ry and Plannir	ig Information	n (\$ in Thousar	(spu						
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing Defense and Space Group FFP Wichita, KS	oent Organizations FFP	<u>s</u> Mar 96	8,766		0	8,766	0	0	0	n/a	8,766
Support and Management Organizations OC-ALC/LH WR-ALC/LKN	gement Organiza	tions		50	0	50 50	0	0 0	00	n/a n/a	50 50
Test and Evaluation Organizations	on Organizations										
Project 4371				Pay	Page 14 of 24 Pages	ıges		Exhil	Exhibit R-3 (PE 0101113F)	0101113F)	
			l		1787						

TRE PROGRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52 Squadrons	PROJECT 4371
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	in Thousands)	
Government Furnished Property: None		
Pro	Page 15 of 24 Pages	Exhib# R-3 (PE 0101113E)
20 x	0100/4114600	

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RDT&E BUDGET IT	ET ITEM JUS	TIFICA	TION S	EM JUSTIFICATION SHEET (R-2 Exhibit)	2-2 Exhi	bit)		DATE Fe	February 1997	797
В⊔реет Астіут∀ 7 - Operational System Developmen	pment		PE N 01(PE NUMBER AND TITLE 0101113F B-52 Squadrons	TITLE 3-52 Squa	adrons			4	РРВОЈЕСТ 4402
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4402 Electronic Countermeasures Improvement	14 0	4,818	0	0	0	0	0	0	0	4,818
(U) A. Mission Description and Budget Item Justification The electronic countermeasures of the B-52 ALQ-172 ECM suite must be improved to cover a requirement identified during DESERT STORM. The improvement provides for an increased memory capability to handle advanced threats as well as correcting a coverage capability problem. The project adds a third ALQ-172 to the ECM suite and develops the new display required by the addition of the third system. The modification also improves two common core Line-Replaceable-Units. Normal circuit cards are replaced with circuit cards holding erasable PROMs and gate array modules. Memory is increased 400% and Mean-Time-Between-Failure is increased. Development program will be completed in FY 97.	Item Justification ALQ-172 ECM sui le advanced threats a ddition of the third sy PROMs and gate ar	te must be ir ss well as co stem. The r ray modules	nproved to c rrecting a co nodification . Memory is	cover a requii verage capal i also improv s increased 4	rement ident bility probler es two comn 00% and Me	iified during m. The proje non core Lin ean-Time-Bei	DESERT ST cct adds a thi e-Replaceab tween-Failur	ORM. The ind ALQ-172 le-Units. No	improvemen to the ECM ormal circuit d. Developr	tt provides suite and cards are nent
(U) FY 1996 (\$ in Thousands): - (U) \$0 No activity - (U) \$0 Total										
(U) FY 1997 (\$ in Thousands): (U) \$150 System Requirement Review (U) \$300 Fabrication of lab mock-up (U) \$4,268 Developmental kit fabrication (U) \$100 System Program Office support (U) \$4,818 Total	nent Review 5 mock-up it fabrication Office support									
(U) FY 1998 (\$ in Thousands): - (U) \$0 No activity - (U) \$0 Total										
(U) FY 1999 (\$ in Thousands): - (U) \$0 No activity - (U) \$0 Total									•	
Project 4402			Page 16 of 24 Pages	'24 Pages			Exhibi	Exhibit R-2 (PE 0101113F)	101113F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICAL	IS NOI	IEET (R	-2 Exhil	bit)		DATE Fe	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development		PE NU 010	PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	drons			9 4	PROJECT 4402
(U) B. Program Change Summary (S in Thousands)									
	FY 1996		FV 1997	FV 1008	FV 1000	0	Total		
(U) Previous President's Budget			5,071	0		0	5,071		
(U) Appropriated Value (II) Adjustments to Appropriated Value	0		4,921	0		0	4,921		
a. Cong Reductions	0		-103	0		0	-103		
b. SBIR	0		0	0		0	0		
 c. Unitions of Other Above Infestional Reprogram d. Below Threshold Reprogramming 	00		o c	00		0 0	0 0		
(U) Adjustments to Budget Years Since FY 1997 PB	0		0	0		0	-103		
(U) Current Budget Submit/President's Budget	0		4,818	0		0	4,818		
(U) Change Summary Explanation: Funding: OSD directed reductions.									
Schedule: None									
Technical: None									
(U) C. Other Program Funding Summary (S in Thousands)									
(U) Aircraft Procurement (PE 11113F) 0	FY 1997 0	FY 1998 4,749	<u>FY 1999</u> 22,100	FY 2000 31,300	FY 2001 31,700	FY 2002 20,953	FY 2003 6,779	To Compl n/a	Total Cost 117,781
(U) D. Schedule Profile									
$\frac{\text{FY } 1996}{1}$	λι κ 4	- 테 ~	FY 1997	4	FY 1998	%] % 7	-	FY 1999	
(U) Contract award(U) Kit proof(U) System Requirement Review		· ×	.	· ××	1		-		·
Project 4402	,	Page 17 of 24 Pages	4 Pages			Exhibi	Exhibit R-2 (PE 0101113F)	101113F)	
		2001							

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R	RDT&E PROGRAM EL	GRAM EL	-EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	Fohriism, 4007	707
BUDGET ACTIVITY 7 - Operation	- Operational System Developmer	evelopme			PE NUMBER AN 0101113F	PE NUMBER AND TITLE 0101113F B-52 (D TITLE B-52 Squadrons				РВОЈЕСТ 4402
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) System Requirement Review (U) Mock-up fabrication (U) Developmental kit proof (U) System Program Office support (U) Total	irement Review ication al kit proof am Office suppor	t		00000		150 300 4,268 100 4,818	00000		0000		
(U) B. Budget Acquisition History and Plannin	cquisition Histor	y and Plannir	ng Information	g Information (\$ in Thousands)	୍ର						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing Defense FFP and Space Group	ent Organizations FFP	<u>s</u> Oct 96	4,418		0	0	4,418	0	0	n/a	4,418
Wichita, KS ITT Avionics, Nutley, NJ	FFP	Oct 96	300		0	0	300	0	0	n/a	300
Support and Management Organizations OC-ALC/LH WR-ALC/LKN	gement Organizat	<u>tions</u>		50 50	0 0	00	50	0 0	0 0	n/a n/a	50
Test and Evaluation Organizations 419th FLTS Project order Edwards AFB,	n Organizations Project order										
Project 4402				Page	Page 18 of 24 Pages	Ses	į	Exh	Exhibit R-3 (PE 0101113F)	0101113E)	
					2001						

RDT&E PROGRAM ELEMENT/PROJEC	EMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52 Squadrons	PROJECT 4402
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	S in Thousands)	
Government Furnished Property: None		
Project 4402	Page 19 of 24 Pages	Exhibit R-3 (PE 0101113F)
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RDT&E	RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	HEET (F	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe	February 1997	26
BUDGET ACTIVITY 7 - Operational System Developmer	Development			PE N 01(PE NUMBER AND TITLE 0101113F B-52	PE NUMBER AND TITLE 0101113F B-52 Squadrons	adrons			4	PROJECT 4493
(\$ In Thousands)	usands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4493 B-61 Mod 11 Flight Tests		4,371	594	0	0	0	0	0	0	0	4,965
(U) A. Mission Description and Budget Item Justification The program involves development and testing of a modified nuclear weapon on B-52 operational aircraft. Replacement of a strategic weapon was recommended by the Program involves development and directed by Presidential Decision Review-30. Congress was notified during the second quarter of FY 1995, of the Department of Defense, and the Department of Energy intent to modify an existing weapon to provide a replacement option. Modifications (made by the Department of Energy) to the B-61 Mod 7 strategic bomb accomplish the mission requirements of the replaced weapon. Modification of an existing weapon is less expensive than the cost to develop a new weapon from "scratch." Flight testing by the 419th FLTS, Edwards AFB, CA is required to certify the modified weapon mass and physic properties are the same as the Mod 7 device. The Air Force asked and received permission from Congress to reprogram the \$4.5M FY 96 Congressional plus-up for AGM-130 integration on the B-52, into the B-61 Mod 11 Flight Test program. This program will be completed in FY 97.	d Budget Item Just lopment and testing lopment and testing rand directed by Pre and of Energy intent that of Energy intent 1 "Scratch." Flight cc. The Air Force a the B-61 Mod 111	itification of a modific esidential De o modify an mission requ esting by the sked and rec	ed nuclear w ccision Revi existing we uirements of 419th FLT eived permi rogram. Thi	eapon on Bew-30. Con apon to provide replace. See Edwards. See See See See See See See See See Se	52 operation gress was no ride a replact 1 weapon. NAFB, CA is: Songress to rill be compl	stification of a modified nuclear weapon on B-52 operational aircraft. Residential Decision Review-30. Congress was notified during the modify an existing weapon to provide a replacement option. It mission requirements of the replaced weapon. Modification of testing by the 419th FLTS, Edwards AFB, CA is required to certasked and received permission from Congress to reprogram the FI FIGHT Test program. This program will be completed in FY 97.	istification g of a modified nuclear weapon on B-52 operational aircraft. Replacement of a strategic weapon was recommended residential Decision Review-30. Congress was notified during the second quarter of FY 1995, of the Department of to modify an existing weapon to provide a replacement option. Modifications (made by the Department of Energy to modify an existing weapon to provide a replacement option. Modification of an existing weapon is less expensive than the cost testing by the 419th FLTS, Edwards AFB, CA is required to certify the modified weapon mass and physic propertials asked and received permission from Congress to reprogram the \$4.5M FY 96 Congressional plus-up for AGM-130 Flight Test program. This program will be completed in FY 97.	of a strategi quarter of FY ions (made b g weapon is ddified weap	ic weapon with 1995, of the Depart less expension mass and sional plus-up	as recommer the Departmer timent of Ene ve than the c physic prop p for AGM-	ided by tt of rgy) to ost to erties are (30
(U) FY 1996 (\$ in Thousands): - (U) \$756 Complete - (U) \$981 Complete - (U) \$1,221 Complete - (U) \$1,413 Data analy - (U) \$4,371 Total	Complete 6 Degree of Freedom aerodynamic analysis for release and initial development of flight test characteristics Complete operational flight tests for Major Assembly Release (MAR) and Aircraft Comparability Control Release Drawing release by DOE Complete aeroballistic and dispersion flight tests and Alaska proof test series for final aerodynamic model development verification of ballistic dispersion/CEP requirement defines in Military Characteristics (MCs) Data analysis and develop new ballistics tables for aircraft operational delivery	eedom aerod ht tests for N d dispersion ent defines ir new ballisti	ynamic anal Aajor Asserr flight tests a 1 Military Cl ics tables for	lysis for relebbly Release and Alaska pharacteristic	ase and initi; (MAR) and roof test ser s (MCs)	al developme Aircraft Cor ies for final ε very	ent of flight to npatability C aerodynamic	est character Control Reles model devel	istics tse Drawing lopment veri	release by D ification of b	OE allistic
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$594 Complete - (U) \$594 Total	<u>cousands):</u> Complete data analysis and develop new ballistics tables for aircraft operational delivery Total	id develop n	ew ballistics	tables for a	ircraft operal	tional delive	È				
(U) FY 1998 (\$ in Thousands): - (U) \$0 No activity - (U) \$0 Total	<u>ds):</u> tivity										
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) \$0 No activity – (U) \$0 Total	<u>ds):</u> tivity										-
Project 4493				Page 20 of 24 Pages	24 Pages			Exhibit	Exhibit R-2 (PE 0101113F)	101113F)	
				1300							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (I	R-2 Exhibi	t)	DATE Febru	February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52	D TITLE B-52 Squadrons	rons		PROJECT 4493
(U) B. Program Change Summary (S in Thousands)					
				Total	
<u>FY 1996</u>	FY 1997	FY 1998	FY 1999	Cost	
(U) Previous President's Budget	209	0	0	5,100	
(U) Appropriated Value 0	209	0	0	5,100	
opriated Value					
a. Cong Reductions 0	0	0	0	0	
b. SBIR 0	0	0	0	0	
d Reprogram	0	0	0	0	
d. Below Threshold Reprogramming 0	0	0	0	-4,500	
(U) Adjustments to Budget Years Since FY 1997 PB 4,371	-13	0	0	4,365	
	594	0	0	4,965	
 (U) Change Summary Explanation: Funding: FY 96 Congressional Appropriations added \$4.5M for AGM-130 integration. Since Air Combat Command did not have a requirement to integrate the AIR Funding: FY 96 Congress authorized the AIR Force to transfer these funds into the B-61 Mod 11 program. Original funding request was for FY 97 expenditures. The Air Fore is expending all moneys in FY 97 to complete the program. Schedule: None 	4-130 integration. Sintransfer these funds97 to complete the pre	nce Air Combat into the B-61 Mi	Command did nood 11 program.	ot have a requirement Original funding requ	to integrate the lest was for FY97
Technical: None					
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) not applicable	FY 1998 FY 1999	FY 2000	FY 2001 FY 2002	FY 2003	10 1041 Compl Cost
(U) D. Schedule Profile					
<u>FY 1996</u>	FY 1997		FY 1998	FY	FY 1999
Project 4493	Page 21 of 24 Pages		H	Exhibit R-2 (PE 0101113F)	113F)
	1289				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52 Squadrons	PROJECT 4493
T 2 3 4 1 (U) Major Assembly Release test (U) Aeroballistic/Dispersion tests (U) DOE modification program	2 3 4 1 2 3 X X X X X X X X X X X X X X X X X X X	4 1 2 3 4
Project 4493	Page 22 of 24 Pages	Exhibit R-2 (PE 0101113F)
	1290	

RDT&	E PRO	GRAM EL	EMENT	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	76
BUDGET ACTIVITY 7 - Operational System Development	ystem D	evelopme	 		PE NUMBER AN 0101113F	PE NUMBER AND TITLE 0101113F B-52 S	D TITLE B-52 Squadrons			9 4	РВОЈЕСТ 4493
(U) A. Project Cost Breakdown (\$ in Thousands)	reakdown	S in Thousan	(इक्								
				FY 1996		FY 1997	FY 1998	FY 1999	6		-
 (U) Software development (U) Developmental test and evaluation (U) Program management support (U) Contractor support (U) Travel (U) Total 	nent t and evalua ent support	tion		1,413 2,202 236 236 470 50 4371	- 2 3 6 6 2 3	594 0 0 0 0 594	00000		00000		
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	ition Histor	y and Plannir	ıg Information	ı (S in Thousand	ds)		•	•	.		
Performing Organizations:	ions:										
Contractor or Co. Government Me Performing or I	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations San Antonio MIPR ALC/Nuc Wpns Integration Division	<u>t Organizations</u> MIPR	5 Jan 97	4,965		0	4,371	594	0	0	n/a	4,965
Support and Management Organizations	nt Organizat	<u>ions</u>									
Test and Evaluation Organizations	anizations										-
Project 4493				Page	Page 23 of 24 Pages	sas		Exh	Exhibit R-3 (PE 0101113F)	0101113F)	
					1961						

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RDT&E PROGRAM ELEMENT/PROJECT	EMENT/PROJECT COST BREAKDOWN (R-3)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101113F B-52 Squadrons	PROJECT 4493
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	Thousands)	
Government Furnished Property: None		
Project 4493	Page 24 of 24 Pages	Exhibit R-3 (DE 0404443E)

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PE NUMBER: 0101120F

PE TITLE: Advanced Cruise Missile

UNCLASSIFIED

RDT&E BUDGET IT	TEM JUS	TIFICA	TION SI	HEET (F	EM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe l	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	<u>+</u>		PE N	PE NUMBER AND TITLE 0101120F Adva	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	Cruise	Missile			PROJECT 3844
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3844 (U) Advanced Cruise Missile	6,743	1,107	2,393	0	0	0	0	0	0	10,243
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

The Advanced Cruise Missule (ACM) is a 10w-observable, aurianucia, su aregiv missure missure missing (ALCM-B) in range, accuracy, and survivability. Armed with a W80 warhead, it is designed to evade air and ground-based defenses in order to strike heavily version (ALCM-B) in range, accuracy, and survivability. 96, FY 97 and FY98 funds are required to complete depot development work. This program is in budget activity 7, Operational System Development, because the The Advanced Cruise Missile (ACM) is a low-observable, air-launched, strategic missile with significant improvements over the Air Launched Cruise Missile B defended, hardened targets at any location within any enemy's territory. The ACM is designed for B-52H external carriage. Missile procurement is complete. program effort involves depot development.

(U) FY 1996 (\$ in Thousands):

- Complete Development of Sensor Repair Capabilities at Depot (U) \$2,467
 - Continue Development of Software Repair Capabilities at Depot (U) \$1,800
- Complete Development of Guidance Repair Capabilities at Depot (U) \$1,846
 - Mission Support/Other (U) \$ 630 (U) \$6,743
 - Total

FY 1997 (\$ in Thousands): 3

- Complete Development of Software Repair Capabilities at Depot (U) \$1,107
 - Total (U) \$1,107

(U) FY 1998 (\$ in Thousands): - (U) \$2.393 Develor A

Develop Aging and Hardness Maintenance/Surveillance Capabilities at Depot (U) \$2,393

Project 3844

Page 1 of 6 Pages

Exhibit R-2 (PE 0101120F)

RDT&E BUDGET ITEM JUS	STIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	Ē	DATE Fahriiary 1997	1007
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0101120F Adva	D TITLE Advanced	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile		PROJECT 3844
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 7,060 7,060	FY 1997 1,165 1,165	FY 1998 2,403	FY 1999	Total <u>Cost</u>	
a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Remogram	(137)	(28)				
d. Below Threshold Reprogramming e. Rescissions (U) Adjusting to Budget Years Since FY 97 PB	(66)		(10)			
(U) Change Summary Explanation:	0,/43	1,107	2,393		10,243	
Funding: None Schedule: None Technical: None						
Project 3844	Pa	Page 2 of 6 Pages	:	Ex	Exhibit R-2 (PE 0101120F)	

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Project Activity Project Act	RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	TION SH	EET (R	-2 Exhil	oit)		DATE Feb	February 1997	97
The Program Funding Summary (S in Thousands) FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Completed Advivory Other Missiles 1,816 1,235 843 1,018 1,071 2,088 2,087 2,114 0 15 Replemishment Spares 1,816 1,235 843 1,018 1,071 2,088 2,087 2,114 0 15 Styles (3600): None Adult Profile Adult Profile EV 1996 FY 1997 FY 2000 FY 2001 FY 2002 FY 2003 Completion Styles (3600): None Adult Profile EV 1996 Add 3,939 1,4811 14,782 13,317 12,937 13,812 0 118 EV 1996 Add 3,939 3,333 3,44 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 2 3 3 4 1 1 3 3 4 1 1	BUDGET ACTIVITY 7 - Operational System Developmen	it		PE NU 010	MBERANDT 1120F A	тге dvanced	Cruise N	Nissile		ii e	колест 844
Procurement (3020) FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Completed through the Activity of the Acti	(U) C. Other Program Funding Summary (S in	Thousands)									
the Activity of Chder Missless	(U) Weapon Procurement (3020)	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
Note State (3400). None state (3400) None state (3400). None	(U) Budget Activity (U) 2. Other Missiles (U) 4. Replenishment Spares	1,816	1,235 242	843 465	1,018	1,071	2,058	2,087	2,114	0	12,242
### REPORTION Note ### Told	(U) Operations and Maintenance (3400)	17,350	13,168	18,593	14,811	14,782	13,317	12,937	13,812	0	118,770
## FY 1996	(U) Related RDT&E (3600): None										
FY 1996	(U) D. Schedule Profile										
L		Y 199		되, -	7 1997	-	FY 199	_	FI.	V 1999	
Bgram Events Activation/Completion Stand Surveillance Programs Page 3 of 6 Pages	(U) Contract Milestones			7	n	1	4		-	n	†
Spram Events Activation/Completion Sprand Surveillance Programs Page 3 of 6 Pages	(U) NONE										
Activation/Completion X s and Surveillance Programs X Page 3 of 6 Pages	(U) Other Program Events										_
s and Surveillance Programs Page 3 of 6 Pages	(U) Depot Activation/Completion					×					
Page 3 of 6 Pages	(U) Aging and Surveillance Programs					×					
Page 3 of 6 Pages											
Page 3 of 6 Pages											
Page 3 of 6 Pages											
	Project 3844			Page 3 of 6	S Pages			Exhib	it R-2 (PE 01	101120F)	

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Per Nulmeter Ann Time	RDT&E PROGRAM ELEMENT	EMENT/PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3		DATE February 1997
FY 1996 FY 1997 FY 1998 FY 1996 FY 1997 FY 1998 Test/Repair 2,467 167 1,806 940 2,393 Launch Payloads Payloads 146 6,743 1,107 2,393	BUDGET ACTIVITY 7 - Operational System Development	94 0	E NUMBER AND TITI	E ranced Cruis	e Missile	PROJECT 3844
FY 1996 FY 1997 FY 1998 Test/Repair of Test/Repair piler Rehost piler Rehost 1,800 940 2,393 Launch Payloads 1 Payloads 1 Payloads 5 484 6,743 1,107 2,393	(U) A. Project Cost Breakdown (\$ in Thousands)					
Test/Repair 2,467 167 Test/Repair 1,846 940 upiler Rehost 1,800 940 Launch Payloads Payloads Payloads 6,743 1,107	(I) Denot Activation	FY 1996	FY 1997	FY 1998	FY 1999	
Launch Payloads Payloads S 484 146 6,743 1,107	(U) Sensor Depot Test/Repair (U) Guidance Depot Test/Repair (U) Software Compiler Rehost (U) Surveillance	2,467 1,846 1,800	167	2,393		
1 Payloads S 484 146 6,743 1,107	(U) Operational Test Launch Payloads					
484 146 6,743 1,107	(U) Redesign Test Payloads					
484 146 6,743 1,107	(U) Other Efforts					
6,743 1,107	(U) Support Contracts	484				
6,743 1,107	(U) Mission Support	146				
	(U) Total	6,743	1,107	2,393		
Project 3844 Exhibit R-3 (PE 0101120F)	Project 3844	Page 4	l of 6 Pages		Exhibit R	k-3 (PE 0101120F)
		-	1296			

RD	RDT&E PROGRAM E	1	EMENT/PROJECT	ROJECT	COSTB	COST BREAKDOWN (R-3)	OWN (R-	(5)	DATE F	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmer	# #		PE NUMBER AN 0101120F	PE NUMBER AND TITLE 0101120F Advar	nced Cruis	ס חוזעב Advanced Cruise Missile		,	РRОЈЕСТ 3844
(U) B. Budget Acquisition History and Plann	equisition Histor	ry and Plannin	ing Information (\$ in Thousands)	(\$ in Thousar	(Spi						
(U) Performing Organizations:	rganizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
(U) Product Development Organizations	opment Organiza	tions									
Hughes MSC Tucson, AZ	SS/FPIF	May 92	16,914	16,914	15,946	1,767					17,713
Kearfott Wayne, NJ	SS/FFP	Aug 93	8,077	8,077	6,200	1,846					8,046
Rockwell Newark, OH	SS/CPAF	Jul 96									
AGMC	PO	Oct 94/ Sep 96			3,361						3,361
OC-ALC	PO Contract	Oct 94/ Dec 96 Sep 97			3,135	2,500	1,107	2,393			6,742
SA-ALC	PO	Oct 94			25						25
Miscellaneous					6,907						6,907
Project 3844				P.	Page 5 of 6 Pages	ses		Ex	Exhibit R-3 (PE 0101120F)	0101120F)	
				!	1001						

RDT&E PROGRAM ELEMENT/PR	EMENT/PROJECT COST BREAKDOWN (R-3)	REAKDO	WN (R-3	=	DATE Echanom, 1007	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0101120F Adva	AND TITLE	PE NUMBER AND TITLE 0101120F Advanced Cruise Missile	e Missile	PROJECT 3844	3844
(U) Support and Management Organizations						
Logistics Jan 95 CAAS	1,943	236				2,179
Miscellaneous Dec 94 CAAS	665	248				847
DSO Mission Support	3,165	146				3,311
(U) <u>Test and Evaluation Organizations</u> : Not Applicable						
(U) Government Furnished Property: Not Applicable						
(U) Subtotal Product Development(U) Subtotal Support and Management(U) Subtotal Test and Evaluation	35,574 5,707	6,113 630	1,107	2,393		45,187
(U) Total Project	41,281	6,743	1,107	2,393		51,524
Project 3844	Page 6 of 6 Pages	5		Exhibi	Exhibit R-3 (PF 0101120F)	
					10311010 3 10 11	1

PE NUMBER: 0102325F

UNCLASSIFIED

PE TITLE: Joint Surveillance System

	RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE		100
ana.	BUDGET ACTIVITY			PEN	PE NUMBER AND TITLE	TITLE			D L	rebruary 1997	
	/ - Operational System Development			010	0102325F Joint Surveillance System	oint Sur	reillance	System			
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	6,050	12,626	2,020	2,219	0	0	0	0	0	TBD
2976	2976 Joint Surveillance System Connectivity (JSS-C)	637	583	0	0	0	0	0	0	0	10.056
2996	FAA/AF Radar Replacement (FARR)*	5,413	3,632	2,020	2,219	0	0	0	0	0	23,793
4559	Region/Sector Air Operations Center (R/SAOC)**	0	8,411	0	0	0	0	0	0	0	TBD
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
	*Due to an administrative error FV96 R/SAOC funding was also by A Cook	C funding	Locale pow	- O V d.d:	I	1. 0. 2.0001					

an administrative error FY96 R/SAOC funding was placed in BPAC 2996. As a result, \$1.499M is being executed from BPAC 4559.

(U) A. Mission Description and Budget Item Justification

The Region and Sector Air Operations Center (R/SAOC) Modernization program will provide a modernized C4I system with enhanced capability to integrate data from Development, as it is a system being deployed to the operational community to solve an operational deficiency in the existing operational system and is post Milestone displaying capacity, thus contributing to delayed C41 decisions. The outdated technology has become increasingly difficult and costly to maintain. This program is in provides improvements to this capability by integrating new sensor data and enhancing communications capabilities via the Advanced Interface Control Unit (AICU). air sovereignty, transition and conventional warfare in the event of aggression toward the North American Continent. The current system has reached saturation in its existing and future civil and military defense surveillance systems into a comprehensive recognized air picture to enhance NORAD's capability to conduct peacetime The FAA/Air Force Radar Replacement (FARR) program will replace 40 existing JSS radars with solid-state, three-dimensional ARSR-4 radars to improve mission Three. The FARR portion of this program element also falls under Budget Activity 7, Operational System Development, as it has received approval for production. Defense) Atmospheric Tactical Warning and Attack Assessment (ATW/AA) air sovereignty, and air defense requirements. The JSS Connectivity (JSS-C) program performance and reduce operation and maintenance costs. The JSS-C portion of this PE falls under Budget Activity 7, research category 6.6, Operational System The Joint Surveillance System (JSS) provides command, control and communications (C3) capability in support of CINC NORAD's (North Atlantic Aerospace capability to receive, process, display, exchange, and employ air surveillance data from current sensor systems. In some cases, it has exceeded processing and budget activity 7 - Operational System Development because it provides funding for the modernization of a currently existing and operating system.

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Exhibit R-2 (PE 0102325F)

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^{**}Funds in this Project will be reclassified to PE 12326 in FY 97. FY 98 and outyear funds were budgeted in PE 12326

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (R-2 Exhibi	t)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0102325F Joint	PE NUMBER AND TITLE 0102325F Joint Surveillance System	llance Syst	
Management for the R/SAOC Modernization is by ESC, AFMC, Hanscom AFB, MA. The R/SAOC Modernization acquisition is currently being refined in preparation of the MS II decision. Development of the system will be executed through full and open competition. Management of the JSS Connectivity is by the Electronic Systems Center, Air Force Materiel Command, Hanscom AFB, MA. The prime contractor for the AICU is TRW, Aurora, CO. Enhanced Traffic Management System (ETMS), Department of Transportation, Cambridge, MA provides the AICU with flight plan information from FAA sources. The Federal Aviation Administration (FAA) is the lead acquisition agency for the FAA/AF Radar Replacement Program in accordance with a 19 November 1984 sub-agreement (as amended by Amendment 1, dated 1 September 1988) to FAA/AF National Agreement (NAT) 711. The FAA and the Air Force have established a joint Program Office at HQ, FAA, Washington, DC for this procurement. Northrup Grumman Corporation, Linthicum, MD is the prime contractor for the FARR program.	", Hanscom AF will be execute scom AFB, MA cambridge, MA or the FAA/AF National rthrup Grumma	B, MA. The R/d through full an The prime con provides the A Radar Replace Agreement (NA an Corporation,	SAOC Moderniz nd open competit ntractor for the A ICU with flight p ment Program in IT) 711. The FA	ation acquisition ion. Manageme ICU is TRW, A lan information accordance with A and the Air Fd	is by ESC, AFMC, Hanscom AFB, MA. The R/SAOC Modernization acquisition is currently being refined in nent of the system will be executed through full and open competition. Management of the JSS Connectivity is by the el Command, Hanscom AFB, MA. The prime contractor for the AICU is TRW, Aurora, CO. Enhanced Traffic of Transportation, Cambridge, MA provides the AICU with flight plan information from FAA sources. The Federal equisition agency for the FAA/AF Radar Replacement Program in accordance with a 19 November 1984 sub-agreement ember 1988 to FAA/AF National Agreement (NAT) 711. The FAA and the Air Force have established a joint Program is procurement. Northrup Grumman Corporation, Linthicum, MD is the prime contractor for the FARR program.
(U) B. Program Change Summary (\$ in Thousands)					- - -
(U) FY1997 President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Cong /General Reductions	FY 1996 4,582 4,582	FY 1997 13,239 13,239 -387	FY 1998 15,824	<u>FY 1999</u> 19,927	Total C <u>ost</u> TBD
b. SBIRc. Omnibus or Other Above Threshold Reprogramd. Below Threshold Reprogramminge, Rescissions	1,499	-226			
(U) Adjustments to Budget Years Since FY 1997 PB (U) FY1998 President's Budget	-31 6,050	12,626	-13,804 2,020	-17,708 2,219	TBD
(U) Change Summary Explanation: Funding: FY97 -\$75 for App Act Sec 8037(E), -\$35 for Sec 8037(H), -\$264 for Sec 8136, -\$13 for Sec 8138.	.c 8037(H), -\$2	64 for Sec 8136	, -\$13 for Sec 81;	38.	
Schedule: None					
Technical: None					
	Page	Page 2 of 15 Pages			Exhibit R-2 (PE 0102325F)

RDT&E BUDGET ITE	SUL ME	TIFICA.	FION SE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhil	oit)		DATE Fet	February 1997	7.
BUDGET ACTIVITY 7 - Operational System Development			PE NI 010	PE NUMBER AND TITLE 0102325F Joint Surveillance System	пте oint Surv	eillance	System			
(U) C. Other Program Funding Summary (S in T	in Thousands)									
	FV 1996	FV 1997	FV 1998	FV 1999	FY 2000	FY 2001	FY 2002	FY 2003	To	Total
(U) Other Procurement AF (U) Budget Activity 6, WSC 86190A	535	0	135	65	0	0	00	00	CBT	
(U) D. Schedule Profile										
	-	FY 1996	-	FY 1997	4	FY 2	FY 1998	1	FY 1999 2 3	4
 (U) R/SAOC MOU with Canada completed (U) Industry submits RFI packages for R/SAOC (U) R/SAOC ORD II approved (U) R/SAOC RFP released (U) R/SAOC Milestone II (U) R/SAOC Contract award (U) R/SAOC contract award (U) AICU System Engineering (U) AICU FOC (U) FARR first operational readiness date (U) FARR first acceptance of systems 21-26 (U) FARR first acceptance of systems 34-40 (U) FARR first acceptance of systems 34-40 (U) FARR first acceptance of systems 34-40 (U) FARR first acceptance of systems ate (U) FARR first acceptance of systems ate (U) FARR first acceptance of systems ate 	× × ×	* *	***			× × ×		× ×	* *	×
			Page 3 of 15 Pages	15 Pages			Exhib	Exhibit R-2 (PE 0102325F)	102325F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	TEET (F	R-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Developmen	#		PE N	PE NUMBER AND TITLE 0102325F Joint	TITLE Joint Sur	PE NUMBER AND TITLE 0102325F Joint Surveillance System	System			PROJECT 2976
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2976 Joint Surveillance System Connectivity (JSS-C)	637	583	0	0	0	0	0	0	0	10,056
(U) A. <u>Mission Description and Budget Item Justification</u> The JSS Connectivity provides improvements to Atmosp and communications (C3) by integrating new sensor data	ustification s to Atmospheric Tactical Warning and Attack Assessme sensor data and enhancing communications capabilities.	ric Tactical nd enhancin	Warning and g communic	l Attack Ass ations capab	essment (AT	istification to Atmospheric Tactical Warning and Attack Assessment (ATW/AA), air sovereignty, and air defense command, control, sensor data and enhancing communications capabilities.	sovereignty,	and air defe	nse commar	id, control,
(U) FY 1996 (\$ in Thousands): - (U) \$50 Provide program office support - (U) \$89 Provide system engineering support for AAMDS - (U) \$11 Provide system integration support for Enhanced Traffic Management System (ETMS) in support of AAMDS - (U) \$280 R/SAOC Modernization System Engineering Support - (U) \$207 R/SAOC Modernization program office management and technical support - (U) \$637 Total	support ring support f tion support f n System Eng n program off	or AAMDS or Enhanced ineering Sup ice managen	Traffic Man port nent and tecl	agement Sy. mical suppo	stem (ETMS) in support (of AAMDS			
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$583 R/SAOC Modernization reclassified to PE 12326F (R/SAOC) approved 4 Feb 97 (IR 97-21 IR) - (U) \$583 Total	n reclassified	to PE 12326	F (R/SAOC)	approved 4	Feb 97 (IR	97-21 IR)				
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 - (U) \$0 Total										
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$0 - (U) \$0										
(U) B. Program Change Summary (\$ in Thousands)	sands)									
Project 2976			Page 4 of 15 Pages	15 Pages			Exhib	Exhibit R-2 (PE 0102325F)	0102325F)	
			1302	2						

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	R-2 Exhibi	t)	DATE February 1997	97
вирдет Астилт 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint	TITLE Ioint Surve	D TITLE Joint Surveillance System		РВОЈЕСТ 2976
(U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong /General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY1998 President's Budget (U) Change Summary Explanation:	FY 1997 611 611 -28	FY 1998 633 -633 0	FY 1999 638 -638	Total Cost 11,355 10,056	
Funding: FY97 funding reclassification to PE 12326F is pending OSD approval FY97 -\$15 for App Act Sec 8037(E), -\$12 for Sec 8136, -\$1 for Sec 8138. Schedule: None Technical: None (U) C. Other Program Funding Summary (\$\$ in Thousands) Not Applicable EY 1996	approval or Sec 8138. icable $\frac{\text{FY 1997}}{2}$		FY 1998 2 3	FY 1999 4 1 2 3	4
Project 2976	Page 5 of 15 Pages	:	Û	Exhibit R-2 (PE 0102325F)	

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RDT	&E PRO	RDT&E PROGRAM EL	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	REAKD	OWN (R-	3)	DATE		
BUDGET ACTIVITY 7 - Operational System Developmer	System D	evelopmer			PE NUMBE 010232	PE NUMBER AND TITLE 0102325F Joint	Surveillan	PE NUMBER AND TITLE 0102325F Joint Surveillance System		PROJ	997 PROJECT 2976
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown	(\$ in Thousan	<u>(sp</u>	FY 1996		FY 1997	FY 1998	FY 1999	61		
 (U) System Engineering Support (AICU) (U) System Engineering Support (R/SAOC) (U) Program Office Support (AICU) (U) Program Office Support (R/SAOC)* (U) Total * FY97 proposed reclassification to PE 12326F is 	ing Support (, ing Support (AlCt support (R/SA support (R/SA	4ICU) 4/SAOC) 1) OC)*	pending OSD approval	100 280 50 207 207 637 approval.		0 0 0 583 583	0 0 0		, 0 0 0		-
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	isition Histor	y and Plannin	g Information	(\$ in Thousand	(<u>s</u>)						
Performing Organizations:	ations:										
Contractor or Government Merforming or Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations None	Organizations	None									
Support and Management Organizations TEMS Various On, Contracts Miscellaneous Various On	ment Organizat Various Contracts Various	<u>ions</u> Ongoing Ongoing	(AICU) (R/SAOC) (AICU)		7,580	89 220 37	0 0			0 0	7,889
MITRE F19628-94- On C-0001 C-0001 Test and Evaluation Organizations None	F19628-94- C-0001 <u>Organizations</u> N	Ongoing	(R/SAOC)			291	583* 0			0	291
Total Project * FY97 proposed reclassification to PE12326F (R/SOCC) is pending OSD approval	sification to F	'E12326F (R/S	OCC) is pendi	ng OSD approva	8,836	637	583	0	0	0	10,056
Project 2976				Page	Page 6 of 15 Pages	ies		Exh	Exhibit R-3 (PE 0102325F)	0102325F)	

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (F	-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Developmen	1 .		PE NI 010	PE NUMBER AND TITLE 0102325F Joint	TITLE oint Sun	PE NUMBER AND TITLE 0102325F Joint Surveillance System	System		- 7	РРОЈЕСТ 2996
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2996 FAA/AF Radar Replacement (FARR)*	5,413	3,632	2,020	2,219	0	0	0	0	0	23,793
(U) A. Mission Description and Budget Item Justification The FAA/AF Radar Replacement (FARR) program will replace 40 existing JSS radars with solid-state, three dimensional ARSR-4 radars to improve mission performance and reduce operation and maintenance costs. This includes technical radar site surveys and interface engineering in preparation for system installation, test, and checkout.	ustification gram will rep nance costs.	olace 40 exis	ting JSS rade s technical ra	ars with soli	d-state, three	e dimensiona erface engine	l ARSR-4 ra ering in prej	dars to improparation for a	ove mission system insta	lation,
 (U) FY 1996 (\$\frac{1}{3}\$ in Thousands): (U) \$545 Provided program office support* (BPAC 2996 - 296 and BPAC 4559 -249) (U) \$984 Continued test support for FARR JPO (BPAC 2996) (U) \$929 Continued radar production, installation, test, and system checkout (BPAC 2996) (U) \$1.705 Continued interoperability evaluations and commissioning support (BPAC 2996) 	e support* (B) or FARR JPC tion, installati ity evaluation	PAC 2996 - (BPAC 299 on, test, and s and commis	296 and BP/16) system chec	AC 4559 -24 kout (BPAC	.9) : 2996) : 2996)					
\$584 System Engineering Sul \$666 Program Management a \$5,413 Totals	port* (BPAC	3.4559) Support* (B	PAC 4559)	, •		•		e 1	•	
*NOIE: \$1.499M was	added to this BPAC due to an administrative error. It should be listed under BPAC 4559. Keter to break-out above,	BPAC due t	o an adminis	trative error	. It should t	oe listed unde	r BPAC 453	9. Kerer to	break-out at	ove.
 (U) FY 1997 (\$\frac{8}{10}\$ Thousands): (U) \$405 Provide program office support (U) \$844 Continue test support for FARR Joint Program Office (JPO) (U) \$832 Continue radar production, installation, test, and system checkout (U) \$1,551 Continue interoperability evaluations and commissioning support (U) \$1,571 Total 	support r FARR Joint on, installatio y evaluations	Program Of n, test, and s and commis	fice (JPO) ystem check sioning supp	out						
1998 (\$ in Th										
••	support r FARR Joint st and system y evaluations	Program Of checkout and commis	fice (JPO) sioning supp	ort						
Project 2996			Page 7 of 15 Pages	15 Pages			Exhib	Exhibit R-2 (PE 0102325F)	102325F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit		DATE February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint	PE NUMBER AND TITLE O102325F Joint Surveillance System	lance Syste		РРОЈЕСТ 2996
(U) FY 1999 (\$ in Thousands): - (U) \$217 Provide program office support - (U) \$436 Continue test support for FARR - (U) \$626 Continue test and system checkout - (U) \$940 Continue interoperability evaluations and commissioning support - (U) \$2,219 Total	issioning support				
(U) B. Program Change Summary (S in Thousands)		FY 1998	FY 1999	Total	
(U) FY1997 President's Budget 5,415 (U) Appropriated Value 5,415 (U) Adjustments to Appropriated Value	A)	15,191	19,289	<u>Cost</u> 61,562	
a. Cong /General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	966'8-				
CU) Adjustments to Budget Years Since FY 1997 PB -2 (U) FY 1998 President's Budget 5,413*	-2 3* 3,632	-13,171 2,020	-17,070 2,219	23,793	
 (U) Change Summary Explanation: Funding:* Due to an administrative error FY96 R/SAOC funding was placed in BPAC 2996. As a result,\$1.499M is being executed FY97 -\$8868 Cong RDT&E, -\$21 for App Act Sec 8037(H), -\$28 for Sec 8037(E), -\$75 for Sec 8136, -\$4 for Sec 8138, FY98/99 funding reprogrammed to PE 12326F. 	vas placed in BPAC 299 7(H), -\$28 for Sec 8037	6. As a result,\$1. E), -\$75 for Sec 8	199M is being ex 136, -\$4 for Sec	FY96 R/SAOC funding was placed in BPAC 2996. As a result,\$1499M is being executed from BPAC 4559. \$21 for App Act Sec 8037(H), -\$28 for Sec 8037(E), -\$75 for Sec 8136, -\$4 for Sec 8138. ed to PE 12326F.	
Schedule: None					
Technical: None					
(U) C. Other Program Funding Summary (S in Thousands) Not	Not Applicable				
Project 2996	Page 8 of 15 Pages		Ē	Exhibit R-2 (PE 0102325F)	

RDT&E BUDGET		JUSTIF	-ICATI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-	2 Exh	ibit)			DATE	February 1997	ary 19	97
BUDGET ACTIVITY 7 - Operational System Development	nent			PE NUMBER AN 0102325F	PE NUMBER AND TITLE 0102325F Joint	nt Sun	rveilla	р ππ∟Е Joint Surveillance System	stem			4 8	PROJECT 2996
(U) D. Schedule Profile		FY 1996	4	FY 1997		4		FY 1998 2 3	4	-	FY]	FY 1999 2 3	4
(U) First operational readiness date (U) First acceptance of systems 21-26 (U) First acceptance of systems 27-33 (U) First acceptance of systems 34-40 (U) FARR last operational readiness date (U) FARR follow-on support including commissioning/baseling before FAA final acceptance	× ×			×		×	*	×	×	×	×	×	×
Project 2996			1	Page 9 of 15 Pages	ages				Exhib	it R-2 (F	Exhibit R-2 (PE 0102325F)	325F)	

BUDGET ACTIVITY					Columny 1991
7 - Operational System Development	PE NU 010	PE NUMBER AND TITLE 0102325F Joint	PE NUMBER AND TITLE 0102325F Joint Surveillance System	ce System	PROJECT 2996
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Systems engineering	1191	969	460	242	
(U) Contractor engineering support	1200	828	835	710	
(U) Installation/Test/Checkouts	1776	1773	532	1,050	
(U) Program Office support	280	405	193	217	
(U) Program Management and Technical Support	999				
(U) Total	5,413	3,632	2,020	2,219	
Project 2996	Page 10 of 15 Pages	15 Pages		Exhibit F	Exhibit R-3 (PE 0102325F)
	The state of the s	22927			1-0 (1 E 01020201)

RDT&E	PROC	RDT&E PROGRAM EL	EMENT/	EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	stem De	evelopmer	±		PE NUMBER AN 0102325F		D TITLE Joint Surveillance System	ce Syster	ء		РРОЈЕСТ 2996
(U) B. Budget Acquisition History and Planning Information (S in Thousands	on Histor	y and Plannii	ng Information	ı (S in Thous	(Sput						
Performing Organizations:	ns:										
Contractor or Contract Government Method' Performing or Fundii	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations	anizations	, at									
Support and Management Organizations MITRE F19628-94- On	ment Organizat F19628-94-	<u>ions</u> Ongoing	(FARR)		2,612	1191	969	460	242	0	5,101
TEMS Various Martin Marietta MDA903	C-0001 Various MDA903-89-	Ongoing Ongoing	(K/SAUC) (FARR) (FARR)		1,669 3,475	1866	828	835	710	0 0	1,669
C-0059 Miscellaneous Various	snc	Ongoing	(FARR)		207	280	405	193	217	0	1,902
Test and Evaluation Organizations Various	<u>nizations</u>				2,246	1,776	1,773	532	1,050	0	7,377
Subtotal Product Development	ment				0					0	0
Subtotal Support and Management	agement				8,263	3,637	1,859	1,488	1,169	0	16,416
Subtotal Test and Evaluation	ion				2,246	1,776	1,773	532	1,050	0	7,377
Total Project					10,509	5,413	3,632	2,020	2,219	0	23,793
Project 2996	:			P	Page 11 of 15 Pages	ıges		Ext	Exhibit R-3 (PE 0102325F)	0102325F)	
					1200						

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RDT&E BUDGET IT	TEM JUS	TIFICA	EM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	8-2 Exh	ibit)		DATE	February 1997	700
BUDGET ACTIVITY 7 - Operational System Development			PE N	PE NUMBER AND TITLE 0102325F Joint	TITLE Joint Sur	PE NUMBER AND TITLE 0102325F Joint Surveillance System	System		oluary 1	PROJECT 4559
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4559 Region/Sector Air Operations Center (R/SAOC)**	0	8,411	0	0	0	0	0	0	0	TBD
(U) A. Mission Description and Budget Item Justification The Region and Sector Air Operations Center (R/SAOC) Modernization program will provide a modernized C4I system with enhanced capability to integrate data from existing and future civil and military defense surveillance systems into a comprehensive recognized air picture to enhance NORAD's capability to conduct peacetime air sovereignty, transition and conventional warfare in the event of aggression toward the North American Continent. The current system has reached saturation in its capability to receive, process, display, exchange, and employ air surveillance data from current sensor systems. In some cases, it has exceeded processing and displaying capacity, thus contributing to delayed C4I decisions. The outdated technology has become increasingly difficult and costly to maintain. This program is in budget activity 7 - Operational System Development, Research Category 6.6 because it provides funding for the modernization of a currently existing and operating system.	Istification (R/SAOC) Murveillance surfare in the ege, and emple ed C41 decisional System I	lodernization ystems into a ystems into a ystems into a ye are surveil ons. The outlebell bevelopment	n program wa comprehen ession towar lance data fi trated techn; Research C.	ill provide a sive recognird the North rom current tology has be category 6.6	modernized ized air pictr American C sensor syster ecome increa because it p	I C4I system are to enhanc continent. The ms. In some asingly difficutovides fund	with enhance NORAD's to current sycases, it has ult and costling for the ming for the m	ed capability to capability to stem has rea exceeded pry to maintain ordernization	to integrate conduct pe ched saturati ocessing and n.	data from acetime on in its I
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$0 Due to an administrative - (U) \$0 Total	: епог FY96]	NSAOC fun	ding was pla	aced in BPA	C 2996. As	егтог FY96 R/SAOC funding was placed in BPAC 2996. As a result,\$1.499М is being executed from BPAC 4559.	99M is being	g executed fr	om BPAC 4	559.
(U) <u>FY 1997 (\$ in Thousands):</u> – (U) \$8,411 R/SAOC Modernization – (U) \$8,411 Total										
(U) FY 1998 (\$ in Thousands):										
- (U) \$0 - (U) \$0 Total										
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$0 - (U) \$0										
(U) B. Program Change Summary (\$ in Thousar	(spu									
Project 4559			Page 12 of 15 Pages	15 Pages			Exhibi	Exhibit R-2 (PE 0102325F)	102325F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2	Exhibit)		DATE February 1997	1997
вироет астіліту 7 - Operational System Development	PE NUMBER AND TITLE 0102325F Joint Surveillance System	E nt Surveilla	ance Syster		РКОЈЕСТ 4559
FY 1996 (1) FV1997 President's Budget 0	FY 1997 0	FY 1998 0	<u>FY 1999</u> 0	Total Cost TBD	
d Value s	8,637 -226	o c	0	TBD	
c. Omnibus or Other Above Threshold Reprogram (U) Adjustments to Budget Years Since FY 1997 PB (U) FY1998 President's Budget	8,411	0	0	TBD	
 (U) Change Summary Explanation: Funding * Due to an administrative error FY96 R/SAOC funding was placed in BPAC 2996. As a result,\$1.499M is being executed from BPAC 4559. FY97 Congressional add \$8,868, -\$32 for App Act Sec 8037(E), -\$14 for Section 8037(H), -\$177 for Section 8136, -\$8 for Section 8138. FY97 R/SAOC Modernization Reclassified to PE 12326 	ced in BPAC 2996. A), -\$14 for Section 803	s a result,\$1.45 7(H), -\$177 fo	9M is being exe r Section 8136,	cuted from BPAC 4559 -\$8 for Section 8138.	
Schedule: None Technical: None					
(U) C. Other Program Funding Summary (\$\mathcal{S}\$ in Thousands) Not Applicable (U) D. Schedule Profile					
(U) MOU with Canada completed x (U) Industry submits RFI packages x (U) R/SAOC ORDII approved x (U) R/SAOC Mod Milestone II x (U) R/SAOC Mod Contract Award	F <u>Y 1997</u> 2 3 4	-	FY 1998	FY 1999 4 1 2 3	4
Project 4559	Page 13 of 15 Pages		Ext	Exhibit R-2 (PE 0102325F)	(
	1311	ı			

RDT&E PROGRAM ELEMENT	EMENT/PROJECT COST BREAKDOWN (R-3)	OST BREAK	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	a	PE NUMBER AND TITLE 0102325F Joint Surveillance System	LE nt Surveilland	se System	PROJECT 4559
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Systems Engineering Support	0	1,280	0	0	
(U) Contract Award		4,633			
(U) Program Office Support	0	1,010	0	0	
(U) Program Management and Technical Support	0	1,488	0	0	
(U) Total	0	8,411	0	0	
Project 4559	Page 14	Page 14 of 15 Pages		1	Evhibit D. 3 (DE 040222E)
	1 200	110			

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RD	RDT&E PROGRAM E	SRAM EL	EMENT/PROJECT	ROJECT	COSTB	REAKD	COST BREAKDOWN (R-3)	3)	DATE F	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	al System Do	evelopmer	<u> </u>		PE NUMBER 010232	PE NUMBER AND TITLE 0102325F Joint	Surveillan	PE NUMBER AND TITLE 0102325F Joint Surveillance System		4	РРОЈЕСТ 4559
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands Performing Organizations:	equisition Histor	y and Plannin	g Information	(\$ in Thousar	(spi						
99											
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total		,			ć	E
Performing Activity	or Funding <u>Vehicle</u>	Obligation <u>Date</u>	Activity <u>EAC</u>	Office EAC	FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Sudget to Complete	l otal Program
Product Development Organizations	ent Organizations	ral									
Support and Management Organizations Mitre F19628-94- ong	F19628-94-	<u>ions</u> ongoing	(R/SAOC)		0	0	1,280	0	0	Cont	TBD
TEMS	C-001B Various	ongoing	(R/SAOC)		0	0	1,488	0	0	Cont	TBD
Prime Contractor MISC	TBD Various	28 Feb 97 ongoing	(R/SAOC) (R/SAOC)		00	0 0	4,633 1,010	0 0	00	Cont	TBD
Test and Evaluation Organizations	n Organizations										
Product Development Property	ent Property										
Support and Management Property	gement Property										
Test and Evaluation Property	n Property										
Subtotal Product Development	evelopment				0	0	0	0		0	0
Subtotal Support and Management Subtotal Test and Evaluation	nd Management 3valuation				00	0	8,411	0		Cont	ТВD
Total Project					0	0	8,411	0		Cont	TBD
* New PE established for R/SAOC Modernization (12326F)	led for R/SAOC	Modernization	(12326F)								
Project 4559				Pa	Page 15 of 15 Pages	iges		Exh	Exhibit R-3 (PE 0102325F)	0102325F)	
					1313						

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PE NUMBER: 0102326F
PE TITLE: Region/Sector Operations Control Center Modernization

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	2-2 Exhi	bit)		DATE	Tobarron, 4007	707
. 0	 #		O10 Cer	PE NUMBER AND TITLE 0102326F Regic Center Modernia	PE NUMBER AND TITLE 0102326F Region/Sector Operations Control Center Modernization	ector Ope	rations (Control	and a	991 PROJECT 4592
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4592 Region/Sector Air Operations Center (R/SAOC)*	0	0	20,512	14,065	8,953	3,920	6,012	6,087	Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	O	0	0	0	0
(U) A. Mission Description and Budget Item Justification	ustification									
The Region and Sector Air Operations Center (R/SAOC) Modernization program will provide a modernized C4I system with enhanced capability to integrate data from existing and future civil and military defense surveillance systems into a comprehensive recognized air picture to enhance CINC NORADS's (North Atlantic Aerospace Defense) capability to conduct peacetime air sovereignty, transition and conventional warfare in the event of aggression toward the North American Continent. The current system has reached saturation in its capability to receive, process, display, exchange, and employ air surveillance data from current sensor systems. In some cases, it has exceeded processing and displaying capacity, thus contributing to delayed C4I decisions. The outdated technology has become increasingly difficult and costly to maintain. This program is in budget activity 7 - Operational System Development, Research Category 6.6 because it provides funding for the modernization of a currently existing and operating system.	rt (R/SAOC) Modernization program will provide a modernized C4I system with enhanced capability to integrate data from surveillance systems into a comprehensive recognized air picture to enhance CINC NORADS's (North Atlantic Aerospace sovereignty, transition and conventional warfare in the event of aggression toward the North American Continent. The apability to receive, process, display, exchange, and employ air surveillance data from current sensor systems. In some ing capacity, thus contributing to delayed C4I decisions. The outdated technology has become increasingly difficult and ional System Development, Research Category 6.6 because it provides funding for the modernization of a currently	odernization ystems into and ansition and eive, process nus contribu evelopment	n program w a comprehen I conventions is, display, ex- ting to delay	ill provide a sive recogni al warfare in cchange, and ed C4I decis	modernized zed air pictui the event of I employ air sions. The ou because it pr	C4I system re to enhance aggression t surveillance utdated techt ovides fundi	with enhanc e CINC NOI coward the N data from cu nology has b	ed capability RADS's (No forth Americ urrent sensor ecome incre-	y to integrate orth Atlantic can Continent systems. It saystems. It assingly diffi	
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$0 *\$1,499 executed from tl - (U) \$0 Total	the Joint Surveillance System PE (12325F)	eillance Syst	tem PE (123;	25F)						
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$0 \$8,994 Approved by OU - (U) \$0 Total	USD(C) on 4 Feb 97 (FY 97-21 IR)	èb 97 (FY 5	77-21 IR)							
 (U) FY 1998 (\$ in Thousands): (U) \$16,503 Establish Contractor Development Facility and Start Development/Modification of Software for Core Operational Capability (COC) (U) \$1,538 Systems Engineering Support (U) \$1,721 Program Management and Technical Support (U) \$750 Program Office Support (U) \$20,512 Total 	velopment Fac pport nd Technical 9	cility and St. Support	art Developn	nent/Modific	cation of Soft	tware for Co	re Operatior	nal Capabiliṛ	y (coc)	
Project 4592			Page 1 of 5 Pages	5 Pages			Exhibit	Exhibit R-2 (PE 0102326F)	102326F)	J.

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	۲-2 Exhibi	it)	DATE Febru	February 1997
вирбет Астииту 7 - Operational System Development	PE NUMBER AND TITLE 0102326F Region/Sec Center Modernization	ΤΙΤΙΕ Region/Sec Iernization	PE NUMBER AND TITLE 0102326F Region/Sector Operations Control Center Modernization	is Control	РРОЈЕСТ 4592
 (U) FY 1999 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$10,637 Conclude Software Development/Modification for COC and Prepare for Install of New Equipment at First Site Comparing Support (U) \$1,413 Systems Engineering Support (U) \$1,265 Program Management and Technical Support (U) \$750 Program Office Support (U) \$14,065 Total 	C and Prepare for	install of New E	quipment at First	Site	
(U) B. Program Change Summary (S in Thousands)					
(U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong /General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	FY 1997 0 0-259	FY 1998 0 0	FY 1999 0 0	Total Cost TBD TBD	
d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY1998 President's Budget	9,479* 8,994*	20,512 20,512	14,065 14,065	Cont	
(U) Change Summary Explanation: Funding: *FY97 funding approved for reclassification from Joint Surveillance System (PE 12325F)	llance System (PE	12325F)			ā
Schedule: None					
Technical: None					
Project 4592	Page 2 of 5 Pages		Ē	Exhibit R-2 (PE 0102326F)	.326F)
	7171				

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RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SE	IEET (R	-2 Exhit	oit)		DATE Feb	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development		PE NU 010 Cen	PE NUMBER AND TITLE 0102326F Regis Center Moderni	PE NUMBER AND TITLE 0102326F Region/Sector Operations Control Center Modernization	ctor Ope	rations (ontrol	4	РКОЈЕСТ 4592
 (U) C. Other Program Funding Summary (\$\sum\$ in Th (U) WSC 834340 (U) Other Procurement AF 	in Thousands) EY 1996 FY 1997 0 0 0	FY 1998 0	FY 1999 11,500 11,500	FY 2000 4,893 4,893	FY 2001 2,000 2,000	FY 2002 5,070 5,070	FY 2003 5,319 5,319	To Compl Cont Cont	Total Cost TBD TBD
(U) Complete H/W Comm Installation at Integration Test Facility 1 (U) Complete INCO/Demo at Integration Test Facility 1 (U) Complete System Test Facility 1 (U) Complete System Test Facility 1 (U) Complete DT&E/IOT&E integration (U) Complete DT&E/IOT&E integration (U) Core operational capability/IOC	FY 1996 2 3 4	<u></u> 취 2	FY 1997 2 3	4	FY 1998 x x	8) E ×		<u>Y 199</u>	4
 (U) Hardware procurement for sites 2,3,4 (U) WADS and Alaska sites Hardware procurement (U) Systems Engineering/Program Management 			•				× × ×	* * *	×××
Project 4592		Page 3 of 5 Pages	5 Pages			Exhibi	Exhibit R-2 (PE 0102326F)	02326F)	

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Center Modernization Project Cost Breakdown Sin Thousands Project Cost Breakdown Project Cost Breakdown Sin Thousands Project Cost Breakdown Project Breakdown Project Cost Breakdown Project Cost Breakdown Project Br	JT&E PROGRAM EL	EMENT/PROJECT COS	ST BREAK	COST BREAKDOWN (R-3)		DATE February 1997
FY 1996 FY 1997 FY 1998 FY 1,538 1 750 1,721 1 16,503 10 Page 4 of 5 Pages	вирсет астіvіту 7 - Operational System Development	PE N	NUMBER AND TITL 02326F Reg enter Modern	E jion/Sector C iization	perations C	
System Engineering Support Program Office Support Program Management and Technical Support Development/Modification of Software for COC Total Total Total Program Management and Technical Support 0 0 20,512 14 Page 4 of 5 Pages	(U) A. Project Cost Breakdown (§ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	
Page 4 of 5 Pages	 (U) System Engineering Support (U) Program Office Support (U) Program Management and Technical Support (U) Development/Modification of Software for COC (U) Total 	0	0	1,538 750 1,721 16,503 20,512	1,413 750 1,265 10,637 14,065	
Page 4 of 5 Pages						
Page 4 of 5 Pages						
Page 4 of 5 Pages						
Page 4 of 5 Pages						
	Project 4592	Page 4 o	of 5 Pages		Exhibit	R-3 (PE 0102326F)

RDT&E	E PROC	PROGRAM EL	EMENT/PROJECT	ROJEC		REAKDO	COST BREAKDOWN (R-3)	3)	DATE F.	February 1	1997
BUDGET ACTIVITY 7 - Operational System Developme	ystem Do	evelopmer	nt		PE NUMBEI 010232 Center	PE NUMBER AND TITLE 0102326F Region/Sec Center Modernization	PENUMBER AND TITLE 0102326F Region/Sector Operations Control Center Modernization)peration:	s Control		РРОЈЕСТ 4592
(U) B. Budget Acquisition History and Planni Performing Organizations:	tion Histor		ng Information (\$ in Thousands)	(\$ in Thous	ands)						
Contractor or Gor Government Mer Performing or F	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations	rganizations	ing									
Support and Management Organizations MITRE F19628-94- On	ment Organizat F19628-94-	<u>tions</u> On-Going	(R/SAOC)		0	0	0	1,538	1,413	Cont	TBD
TEMS Various Prime Contractor TBD (CPAF) MISC Various Test and Evaluation Organizations	C-001B Various TBD (CPAF) Various Organizations	On-Going 28 Feb 97 On-Going	(R/SAOC) (R/SAOC) (R/SAOC)		0 0	0	000	1,721 16,503 750	1,265 10,637 750	Cont Cont Cont	TBD
Product Development Property	operty				c	c	c	<	c	Ç	- dat
Support and Management Property	nt Property				>	-	>	> 0			Jai Jar
Test and Evaluation Property	perty				> <	> 6	> <	> <	o 6		Ja i
Subtotal Product Development Subtotal Support and Management	pment magement				000	000	-	0 0 20,512	0 0 14,065	Cont	TBD TBD
Subtotal Test and Evaluation Total Project	ation				0 0	0 0	0 0	0 20,512	0 14,065	Cont	TBD
								I	! ! !		
Project 4592					Page 5 of 5 Pages	ies		X	Exhibit R-3 (PE 0102326F)	0102326F)	

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PE NUMBER: 0102411F PE TITLE: Surveillance Radar Stations/Sites (SRS)

	RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE		
BUDGET ACTIVITY 7 - Operational	BUDGET ACTIVITY 7 - Operational System Development			PEN	PE NUMBER AND TITLE	TITLE			- T	בַּ	997 PROJECT
					7	'ul veillai	Surveillance Radar Stations/Sites (SRS)	Station	s/sites (s	_	2980
Ö	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2980 Surveillance Rad	Surveillance Radar Stations/Sites (SRS)	6,702	4,962	1,442	0	0	0	0	0		60,548
Quantity of RDT&E Articles	kE Articles	0	0	0	0	0	0	0	0		
(U) A. Mission Dess This program prov and air surveillanc NATO funding inf supports improven	(U) A. Mission Description and Budget Item Justification This program provides improvements to command, control, and communications (C3) and air surveillance capabilities in Iceland. The Control Reporting Center (CRC) and air surveillance radars support air defense requirements in the strategically important Greenland-Iceland-Norwegian gap. The program is a joint program with NATO funding infrastructure while the US funds cryptographic capabilities, system engineering and integration activities. The program is in budget activity 7 since it supports improvements to these currently operational systems.	stification nd, control, quirements i s cryptograp	and commur n the strateg hic capabilit s.	ications (C3 ically impor ies, system e) and air sur tant Greenla	veillance ca nd-Iceland-l ind integrati	pabilities in I Norwegian ga on activities.	celand. The ap. The pro The progra	e Control Re gram is a joi nm is in budg	porting Cen int program get activity 7	CRC)
(U) <u>FY 1996</u> - (U) 2,159 - (U) 1,836 - (U) 2,707 - (U) 6,702	(\$ in Thousands) Provide program office support. Provide systems engineering support for IADS. Perform on island DT&E & OT&E. Total	ipport. ing support f & OT&E.	or IADS.								
(U) <u>FY 1997</u> - (U) 2,088 - (U) 2,522 - (U) 3,522 - (U) 4,962	(\$ in Thousands) Provide program office support. Provide systems engineering support for IADS. Complete support for DT&E & OT&E. Total	pport. ng support fi 2E & OT&E	or IADS.								
(U) <u>FY 1998</u> - (U) 1,022 - (U) 420 - (U) 1,442	(\$ in Thousands) Provide program office support Provide systems engineering support for IADS Total	pport ng support fo	ır IADS								
(U) <u>FY 1999</u> _ (U) 0	(\$ in Thousands) Total										
Project 2980				Page 1 of 5 Pages	Pages			Exhibit	Exhibit R-2 (PE 0102411F)	102411F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit		DATE	1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0102411F Surv	TITLE Surveillance	Radar Stati	гергиагу 1997 Битте PROJ Surveillance Radar Stations/Sites (SRS) 298	1997 PROJECT 2980
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY1997 President's Budget 8,502 (U) Appropriated Value 8,502 (U) Adjustments to Appropriated Value	8,502 EV 1997 5,278 8,502 5,278	<u>FY 1998</u> 5,311	<u>FY 1999</u> 0	Total <u>Cost</u> 67,636	
	-1,800 -233 -83 6,702 4962	-3,869 1,442	0	60,548	
 (U) Change Summary Explanation: Funding: Funding: Funding: FY96 BTR -\$1,500 to PE 12325F for the R/SOCC Modernization effort FY96 BTR -\$300 to PE 27412F for Theater Air Control System Improvements (TACSI) FY96 BTR -\$300 to PE 27412F for Theater Air Control System Improvements (TACSI) FY97 -\$27 for Appr Act Sec 8037(H), -\$95 for Section 8037(E), -\$106 for Section 8136 and -\$5 for Section 8138. FY98 Budget adjustment for support of the Reliability, Maintainability, Supportability (RMS) effort in PE 12412F minus FFRDC and general reductions. 	ration effort tem Improvements (TA (E), -\$106 for Section trainability, Supportabi	(CSI) 8136 and -\$5 for the lity (RMS) effort in	Section 8138. n PE 12412F m	ninus FFRDC and general	reductions.
Schedule: None					
Technical: None					
(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable					
Project 2980	Page 2 of 5 Pages 1322		Ĕ	Exhibit R-2 (PE 0102411F)	

RDT&E BUDGET ITE	M JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	E February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0102411F Surveillance Ra	ם זודוב Surveillance Radar Stations/Sites (SRS)	ļ	PROJECT 2980
(U) D. Schedule Profile					
_	FY 1996 2 3 4 1	$\frac{\text{FY 1997}}{2}$ 4 1 2	FY 1998 2 3 4	FY 1999 1 2 3	4
(U) Ground-Air-Ground Radio Checkout x (U) Control Reporting Center Building x					
Complete (U) First Intercept Complete	×				
(U) On-Site Development Test & Evaluation		×			
(U) Functional Configuration Audit		×			
(U) System Operational Test &		×			
Evaluation (1) FOC		×			
(U) Preparation for JFAI, CI-13 Install		× ×	×		
(U) Finish SPO support for On-Island program residuals and T&E				×	
Project 2980	P_{c}	Page 3 of 5 Pages	Exhibit R-2	Exhibit R-2 (PE 0102411F)	

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вирсет Астіvіт 7 - Operational System Development	PE NI 010	PE NUMBER AND TITLE 0102411F Surve	E veillance Ra	PE NUMBER AND TITLE 0102411F Surveillance Radar Stations/Sites (SRS)		РРОЈЕСТ 2980
(U) A. Project Cost Breakdown (\$ in Thousands)						
	FY 1996	FY 1997	FY 1998	FY 1999		
(U) Engineering Support	1,836	2,088	420	0		
(U) Test and Evaluation Support	2,707	352	0	0		
(U) Program Support	2,159	2,522	1,022	0		
(U) Total	6,702	4,962	1,442	0		
Project 2980	Page 4 of 5 Pages	5 Pages		Exhibit R-	Exhibit R-3 (PE 0102411F)	

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RDT&E PROG	PROGRAM ELE	MENT/P	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	JWN (R-	3)	DATE FO	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	velopment			PE NUMBER AN 0102411F		llance Ra	ਹ ਸ਼ਾਸ਼ੁ Surveillance Radar Stations/Sites (SRS)	ns/Sites (PROJECT 2980
(U) B. Budget Acquisition History and Planni	and Planning	Information	ng Information (S in Thousands)	(Sp						,
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations ESC										
Support and Management Organizations F19628-94- Oct	ions Oct 94			32,118	1,836	2,522	420	0	0	36,896
C-0001/LUE TEMS Various	Jun 94			13,664	1,051	284	400		0	16,102
Miscellaneous Various Contracts Contracts				1,202	1,108	1,101	622	0	0	4,033
Test and Evaluation Organizations Various				458	2,707	352	0	0	0	3,517
Subtotal Product Support				0	0	0	0	0	0	0
Subtotal Support and Management				46,984	3,995	4,610	1,442	0	0	57,031
Subtotal Test and Evaluation				458	2,707	352	0	0	0	3,517
Total Project				47,442	6,702	4,962	1,442	0	0	60,548
Project 2980			Pr	Page 5 of 5 Pages	sa.		Exh	Exhibit R-3 (PE 0102411F)	0102411F)	į
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PE NUMBER: 0207131F

UNCLASSIFIED

PE TITLE: A-10 Squadrons

TBD Œ **Total Cost** PROJECT 3861 February 1997 TBD TBD Cost to Complete 0 10,908 FY 2003 Estimate 3,223 FY 2002 Estimate 6,955 RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3) FY 2001 Estimate PE NUMBER AND TITLE 0207131F A-10 Squadrons 7,127 0 FY 2000 Estimate 2,358 0 FY 1999 Estimate FY 1998 Estimate 0 FY 1997 Estimate FY 1996 Actual 7 - Operational System Development COST (\$ In Thousands) Quantity of RDT&E Articles 3861 A-10 Squadrons BUDGET ACTIVITY

A. Mission Description and Budget Item Justification 9

This program is in budget activity 7 - Operational System Developement, Research Category 6.6 because it supports an operational system. The A-10 aircraft is the Air Force's dedicated Close Air Support (CAS) aircraft for support of ground manuever forces. There is a need to upgrade and modernize the A/OA-10 aircraft to enhance computer memory, throughput, and system architecture to allow the aircraft to integrate advanced weapons and accomodate a situational awareness display, a data-link its ability to support CAS and interdiction mission requirements. The Low Altítude SA fety and Targeting Enhancement (LASTE) computer upgrade will enhance the capability, an Electronic Warfare Management System, and the Digital Terrain System.

Acquisition Strategy: 3

1. The LASTE development will be conducted under the A-10 Prime Contract scheduled to be awarded in March 1998 on a full-and-open basis.

- (U) FY 1999 (\$ in Thousands)
- LASTE Computer Upgrade (U) \$2,358
- (U) \$2,358

(U) B. Program Change Summary (\$\sumset \text{in Thousands})

Cost	TBD		TBD
FY 1999	8,904	-6,546	2,358
FY 1998	6,091	-6,091	0
FY 1997	0		0
FY 1996	0		0
	(U) Previous President's Budget	(U) Adjustments to Budget Years Since FY 1997 PB	(U) Current Budget Submit/President's Budget

Total

(U) Change Summary Explanation:

Funding: The Fighter Configuration Plan (FICOP) reduced FY98-99 funding to accomplish other higher priority projects. The Situation al Awareness Data Link (SADL) was cancelled resulting in reduced funding requirements in FY99-FY02.

Project 3861

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Page I of 3 Pages

Exhibit R-3 (PE 0207131F)

RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHI	EET (R-	2 Exhib	it)		Feb	February 1997	7
BUDGET ACTIVITY 7 - Operational System Development		PE NUM 0207	PE NUMBER AND TITLE 0207131F A-10	0207131F A-10 Squadrons	drons			E 88	PROJECT 3861
Schedule: The FICOP delayed initial procurement of the LASTE computer upgrade one year. The Common Missile Warning System program is also delayed by two years. SADL was cancelled.	ement of the LASTE or	omputer upgrad	e one year.	The Commo	on Missile	Varning Sys	tem program	ı is also delay	ed by
Technical: Not Applicable									
(U) C. Other Program Funding Summary (\$ in T	Thousands)								
(U) Aircraft Procurement, BP-11 (PE 27131F)	FY 1996 FY 1997 27,025 35,823	FY 1998 24,971	FY 1999 28,315	FY 2000 26,569	FY 2001 49,997	FY 2002 26,084	FY 2003 27,704	To Compl TBD	Total Cost TBD
(U) D. Schedule Profile									
I (U) Low Altitude Safety and Targeting Enhancement (LASTE) computer upgrade RDT&E	FY 1996 2 3 4	$\frac{FY}{2}$	FY 1997 2 3	4	FY 1998 2 3	8) E 4	-×	FY 1999 2 3	4
Project 3861		Page 2 of 3 Pages	Pages			Exhibi	Exhibit R-2 (PE 0207131F)	207131F)	

R	RDT&E PROGRAM EI	GRAM EL	EMENT/	-EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	OWN (R	(6)	DATE	February 1997	760
BUDGET ACTIVITY 7 - Operation	вирдет Астинт 7 - Operational System Development	evelopmer	ıt		PE NUMBER AN 0207131F	PE NUMBER AND TITLE 0207131F A-10	D TITLE A-10 Squadrons	S			РРОЈЕСТ 3861
(U) A. Project ((U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	\$ in Thousan	(ছা								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) LASTE (U) Total								2,358	∞ ∞		
(U) B. Budget A	(U) B. Budget Acquisition History and Plannir	y and Plannin	g Information	ng Information (S in Thousands)	(spu						
Performing Organizations:	anizations:									•	
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Developn	Product Development Organizations LASTE	rAI.									
TBD	TBD	1Q99							2,358	8,100	10,501
Support and Mana Not Applicable	Support and Management Organizations Not Applicable	tions									
Test and Evaluation Organizations Not Applicable	on Organizations										
Total Project									2,358		
Project 3861				P	Page 3 of 3 Pages	səž		EX	Exhibit R-3 (PE 0207131F)	0207131F)	

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1330

PE NUMBER: 0207133F

UNCLASSIFIED

PE TITLE: F-16 Squadrons

RDT&E BUDGET IT	EM JUS	STIFICA	TION S	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	1-2 Exhi	bit)		DATE FA	Fohruam, 1007	700
RIDGET ACTIVITY								-	Juany 1	201
7 - Operational System Development			02 N	PE NUMBER AND TITLE 0207133F F-16 Squadrons	TITLE -16 Squa	drons				PROJECT 2671
COST (\$ in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2671 F-16 Squadrons	146,114	126,228	100,223	100,491	108,769	118,399	86,171	43,493	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	

(U) A. Mission Description and Budget Item Justification

- seat, multirole tactical fighter with full air-to-air and air-to-surface combat capabilities. The F-16 complements the F-15 in counter-air missions and as the primary aircraft (U) The F-16 fighter aircraft program satisfies the need for modernization of the USAF and allied multimission tactical fighter forces. The F-16 is a single-engine, singlein the surface attack role. The F-16C/D program develops, integrates, and qualifies systems to enhance the overall performance of the F-16 mission.
- design improvements. The planned program also develops Close Air Support (CAS) enhancements for 250 Block 40 C/D by integrating the Night Vision (NVIS) imaging (U) The F-16 program also develops enhanced combat capability in both the air-to-ground and air-to-air role. Improvements (all within the FYDP) include completion of the Mid-Life Update (MLU) Program, the Modular Mission Computer (MMC), Block 30 GPS Integration, Smart Weapons Integration, and Pratt & Whitney 229 Engine system. The F-16C/D development efforts are complemented by comprehensive Operational Flight Program (OFP) upgrades.
- Block 50 aircraft with the latest version of the High Speed Anti-Radiation Missile (HARM). The program includes enhancements to the HARM Targeting System to enable F-16C/D has significantly improved display processors, enabling increased pilot situational awareness. Efforts are underway to upgrade the IDM data link capability on the mods to European F-16A/B, including the Modular Mission Computer (MMC), which USAF Block 50s will eventually employ. The MMC will extend the cost effective (U) To meet the need beyond the turn of the century, a Mid-Life Update (MLU) of aircraft avionics is being conducted by our European partners. MLU involves various life of the F-16 through replacement of three Line Replaceable Units and the addition of significant memory and processing growth provisions. The latest version of the the F-16 Block 50 to better perform in the Suppression of Enemy Air Defenses role.
- Link 16 for Blocks 40/50; MMCs added for Block 40s; Advanced Weapons Integration, Night Vision Imaging System (NVIS), Enhanced/Expanded Fire Control Computer, Improved Flight Control Computer (E^2FCC) for the Block 30; Improved Airborne Video Tape Recorder (AVTR) for Block 50 and On-Board Oxygen Generating System include significant cost of ownership reductions, reduced logistics support and mobility footprint, increased reliability and increased safety. CCIP will modify all Block 40 provided oxygen-enriched breathing gas to the pilot by separating oxygen from engine bleed air taken from the environmental control system (ECS). Benefits of OBOGS (OBOGS) for all F-16 C/D aircraft; and Common Configuration Integration Program (CCIP) Integration (Time & Materials). The On-Board Oxygen Generation System (U) Additionally, future capability is highlighted by new developments such as: new Color Displays for Blocks 40/50; Improved Flight Controls for Blocks 30/40/50; and Block 50 F-16 aircraft. CCIP pulls together three related programs under one umbrella:

Project 2671

Page 1 of 10 Pages

Exhibit R-2 (PE 0207133F)

Project Parameter Project	PROJUGET ACTION PROJUGET ACTION PROJUGET AND PROJUGET ACTION PROJUGET ACTI	RDI	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
The Paria Profect RCCPC Will be up Carlo. If the Operation Link Is a data link that to make a the natural waveness and to have possition data. The Link (is program designs the appropriate Group a (hardware that is bear postion data. The Link (is program designs the appropriate Group a (hardware that is bear postion data. The Link (is form a tryptace) for program designs the appropriate Group a (hardware that is bear postion data. The Link (is data the current black and white display will be changed out with the color display used by the European Partner Air Force (EPAF) countries on the Mid-Life Update (MALU) Program. Local Design of the Link (is data the current black and white display will be changed out with the color display used by the European Partner Air Force (EPAF) countries on the Mid-Life Update (MALU) Program. (U) PEV 1996 (§ in Thousands): Local Design of the Life Update (MALU) Engineering & Manufacturing Development activities in this PE support an operational sizeral development activities are funded in the Operational System Development budget activity seven. (U) ST 1500 Continue Mid-Life Update (MALU) Engineering & Manufacturing Development (EMD) Local St 1500 Continue Mid-Life Update (MALU) Engineering & Manufacturing Development (EMD) Local St 1500 Continue Piled Tress DEVE Computer (MMC) computer Upgram updates Local St 2500 Initiate Advanced Weapons Integration (CAS) EMD Local St 2500 Continue Piled Tress DEVE Program by Fi 6 System Program updates Local St 2500 Continue Piled Program Development (EMD) Local St 2500 Continue Piled Prostem Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Program (CAS) EMD Local St 2500 Continue Piled Pro	A. The name river for CCPF will be the Link of broggam. Link of the stade link flut connects man components or battle area to a the an area to a the connect man the program character of program. The for a data link flut connects man designs the appropriate Group a flutarbane mounted permanently on aircraft) to incorporate existing. Group B (dardware that is easily removed from airplane) developed by the Multifunctional Information Distribution System (MIDS) Office and adapted for use on the F-1G. To explane the display of the Link 16 data, the current black and white display will be changed out with the color display used by the European Partner Air Force (EPAA) countries on the Mid-Link Update (MLU) Program. To have sufficient computing power in the Block 40 aircraft to operate Link 16 and to allow the cost savings of using a common Operational Fight Program, the Multimission Computer (MMC) has to be uggaded to the same as used on the Block 50 aircraft. Since the development activities in this PE support an operational system Development budget activity seven. (U) The F-16, which received Mission Countries (MMC) Engineering & Manufacturing Development (EMD) - (U) S11,600 Continue Mid-Lik Update (MLU) Engineering & Manufacturing Development (EMD) - (U) S10,033 - (U) S10,035 - (U) S1	BUDGET ACTIVITY 7 - Operational Sys		PROJECT 2671
development activities are funded in the Operational System Development budget activity seven. (U) FY 1996 (8 in Thousands): (U) EV 1996 (8 in Thousands): (U) S11,600 Continue Mid-Life Update (MLU) Engineering & Manufacturing Development (EMD) (U) S19,035 Continue Block of Close Air Support (AA) EMD (U) S19,030 Continue Block of Close Air Support (AA) EMD (U) S6,550 Initiate Advanced Weapons Integration (U) S6,550 Initiate Advanced Weapons Integration (U) S1,500 Continue (from FY 95 Procurement) Operational Flight Program updates (U) S1,500 Sart On-Board Oxygen Generating System (OBGS) Development (U) S1,500 Sart On-Board Oxygen Generating System (OBGS) Development (EMD) (U) S1,500 Continue Flight Tests Draw Governor Within Program of Manufacturing Development (EMD) (U) S1,500 Continue Flight Tests Days Action (U) S1,500 Continue Block S0 Global Positioning System (U) S2,900 Continue Block S0 Global Positioning System S0 Continue Block S0 Global Positioning S0 System S0 Continue Block S0 Global Positioning S0 System S0 Continue Block S0 Global Positioning S0 Syste	development activities are funded in the Operational System Development budget activity seven. (U) FY 1996 (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1996} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 1997} (\$\frac{1}{2}\text{ in Thousand2}): (U) \$\frac{1}{2}\text{ 200} (\$\frac{1}{2}\text{ in Thousand2})	a. The main drive share position data. The L easily removed from airplib. To enhance the Force (EPAF) countries or c. To have suffici	ar for CCIP will be the Link 16 program. Link 16 is a data link that connects main components of a battle bink 16 program designs the appropriate Group a (hardware mounted permanently on aircraft) to incorporate) developed by the Multifunctional Information Distribution System (MIDS) Office and adapted for a display of the Link 16 data, the current black and white display will be changed out with the color display of the Link 16 data, the current black and white display will be changed out with the color displant the Mid-Life Update (MLU) Program. The Mid-Life Update (MLU) Program. The Mid-Life Update (MLU) Program. The Mid-Life Update (MLU) Program.	
1996 (\$ in Thousands): \$11,600 Continue Mid-Life Update (MLU) Engineering & Manufacturing Development (EMD) \$22,984 Continue Modular Mission Coumpter (MMC) computer upgrade \$19,053 Continue Block 40 Close Air Support (CAS) EMD \$19,063 Continue Block 30 Global Positioning System \$22,300 Continue Flight Tests DT&E \$22,300 Continue Flight Tests DT&E \$23,027 Identified for Redristribution Within Program by F-16 System Program Office (SPO) [See R-3] \$1,500 Start On-Board Oxygen Generating System (OBOGS) Development \$1,400 ECIT Edwards PBD Action \$1,400 Other (See R3) \$1,400 Other (See R3) \$1,400 Continue MMC upgrase \$1,500 Continue F-16 Block 40 Close Air Support EMD \$1,500 Continue Block 30 Global Positioning System \$10,930 Continue Block 40 Close Air Support EMD \$22,000 Continue Advanced Weapons integration \$22,000 Continue P-16 Block 40 Close Air Support EMD \$22,000 Continue Flight Tests Developmental Test & Evaluation \$22,000 Continue Plight Tests Developmental Test & Evaluation \$22,000 Continue Plight Tests Developmental Test & Evaluation	1996 (\$ in Thousands): \$11,600 Continue Mid-Life Update (MLU) Engineering & Manufacturing Development (EMD) \$29,984 Continue Modular Mission Coumpter (MMC) computer upgrade \$19,053 Continue Block 40 Close Air Support (CAS) EMD \$81,000 Initiate Block 30 Global Positioning System \$25,300 Continue Flight Tests DT&E \$39,100 Continue Flight Tests DT&E \$3,027 Identified for Redristribution Within Program by F-16 System Program Office (SPO) [See R-3] \$1,500 Start On-Board Oxygen Generating System (OBOGS) Development \$1,400 ECIT Edwards PBD Action \$1,500 Other (See R3) \$1,500 Complete Mid-Life Update Engineering and Manufacturing Development (EMD) \$1,500 Continue AMC upgrase \$10,930 Continue Advanced Weapons integration \$10,000 Continue Advanced Weapons integration \$10,000 Continue Advanced Weapons integration \$25,000 Continue Operational Flight Program \$25,000 Continue Plight Tests Developmental Test & Evaluation \$25,000 Continue Plight Tests Developmental Test & Evaluation \$25,000 Continue Plight Tests Developmental Test & Evaluation \$25,000 Continue Plight Tests Developmental Test & Evaluation	(U) The F-16, which rece development activities are	ived Milestone III approval in FY 1977, is an operational aircraft. Since the development activities in th funded in the Operational System Development budget activity seven.	is PE support an operational aircraft, these
		(U) FY 1996 (\$ in T (U) \$ 11,600 (U) \$ 11,600 (U) \$ 29,984 (U) \$ 19,053 (U) \$ 19,053 (U) \$ 19,053 (U) \$ 19,053 (U) \$ 19,050 (U) \$ 19,000 Nousands): Continue Mid-Life Update (MLU) Engineering & Manufacturing Development (EMD) Continue Modular Mission Coumpter (MMC) computer upgrade Continue Block 40 Close Air Support (CAS) EMD Initiate Block 30 Global Positioning System Initiate Block Advanced Weapons Integration Continue Flight Tests DT&E Continue More (See R-3) Total Complete Mid-Life Update Engineering and Manufacturing Development (EMD) Continue MMC upgrase Continue MMC upgrase Continue Advanced Weapons integration Continue Advanced Weapons integration Continue Plock 30 Global Positioning System Continue Plock 30 Global Positioning System Continue Plock 10 Close Air Support EMD Continue Plock 40 Close Air Support EMD Continue Plock 40 Close Air Support EMD Continue Plock 40 Close Air Support EMD Continue Flight Tests Developmental Test & Evaluation Continue Flight Tests Developmental Test & Evaluation	Exhibit R-2 (PE 0207133F)	

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RDT&E BUDGET	GET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207133F F-16 Squadrons	rebruary 1997 PROJECT
- (U) \$2,200 Start Enhanced - (U) \$6,000 Start Common (O) \$1,000 Continue On-Brown (O) \$8,664 Identified for Rrown (O) \$3,916 Other (See R-3) (O) \$126,228 Total	Expanded Fire Control Computer Block Configuration Implementation Program (oard Oxygen Generation System (OBOG edristribution Within Program by F-16	30 (EYZFCC) CCIP) S) ystem Program Office (SPO) [See R-3]	
(U) FY 1998 (\$ in Thousands): - (U) \$9,400 Start Link 16 Developmee - (U) \$3,000 Continue Unit Training D - (U) \$3,000 Complete Block 40 Close - (U) \$5,900 Complete Block 40 Close - (U) \$5,900 Complete Modular Mission - (U) \$5,000 Continue OFP Updates - (U) \$7,000 Continue Advanced Weap - (U) \$1,325 Government Test/Support - (U) \$1,325 Government Weap - (U) \$1,299 (\$ in Thousands): - (U) \$1,290 Start Block 40 and Continue - (U) \$3,900 Start Block 40 and Continue - (U) \$3,500 Continue OFP Updates - (U) \$3,200 Complete Advanced Weap - (U) \$3,200 Complete Block 30 Globe - (U) \$3,200 Start MMC for Block 40 - (U) \$4,179 Unit Training Devices (U) - (U) \$4,200 Start Mew Support Equipin - (U) \$4,200 Start New Support Equipin - (U) \$4,179 Unit Training Devices (U) - (U) \$4,179 Unit	Start Link 16 Development/Integration Continue Unit Training Devices (UTDs) Continue Unit Training Devices (UTDs) Complete Block 40 Close Air Support EMD Complete Block 40 Close Air Support EMD Complete Modular Mission Computer (MMC) on Block 50 Continue OFP Updates Continue Advanced Weapons Integration Continue Block 30 Global Positioning System (GPS) Government Test/Support Start Color Display Development/Integration for Block 50 Total Continue Link 16 Start Block 40 and Continue Block 50 Color Display Development/Integration Continue Flight Tests Development Test & Evaluation Continue OFP Updates Complete Advanced Weapons Integration Continue OFP Updates Complete Advanced Weapons Integration Start MMC for Block 40 Unit Training Devices (UTDs) Start New Support Equipment Development Total	0 elopment/Integration .gration	
Project 2671	Page 3 (Page 3 of 10 Pages	Exhibit R-2 (PE 0207133F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATIC	N SHEET	(R-2 Exhib	it)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207133F F-16	PE NUMBER AND TITLE 0207133F F-16 Squadrons	rons		PROJECT 2671
(U) B. Program Change Summary (S in Thousands)					-	
	FY 1996	FY 1997	FY 1998	FY 1999	Total Cost	
(U) Previous President's Budget	175,600	142,202	118,890	116,736	TBD	
(U) Appropriated Value	175,600	132,202				
(U) Adjustments to Appropriated Value						
a. Congressional General Reductions	-3,439	-2,772				
b. SBIR	-4,221	-3,202				
c. Omnibus or Other Above Threshold Reprogram	-13,336					
d. Below Threshold Reprogramming	-7,415					
e. Recissions	-1,075					
(U) Adjustments to Budget Years Since FY 1997 PB			-18,657	-16,245		
(U) Current Budget Submit/FY 98 PB	146,114	126,228	100,233	100,491	TBD	
(U) Change Summary Explanation:						
Funding: Reduces net of \$69.1 million RDT&E funds in FY 96-99. This net decrease is resultant from the most recent Warfighter's Fighter Configuration Plan (FICOP 96) and includes:	s in FY 96-99. Thi	is net decrease is 1	resultant from the	e most recent War	fighter's Fighter Configurati	tion Plan
\$4.2 million add to start Support Equipment efforts in FY 99	ts in FY 99					
\$9.4 million add in FY 98 and \$13.2 million add in FY 99 to initiate LINK 16 integration on F-16 aircraft	in FY 99 to initiate	LINK 16 integra	tion on F-16 airc	raft		
• \$3.0 million add in FY 98 and \$3.9 million add in FY 99 to initiate development efforts on Color Displays	1 FY 99 to initiate of	development effor	rts on Color Disp	lays		
 \$1.9 million add in FY 96 for miscellaneous studies/etc. 	ies/etc.		•			

- \$1.5 million add in FY 96 and \$1.0 million add in FY 97 to initiate/complete development of On-Board Oxygen Generating System (OBOGS)
 - \$1.4 add for ECIT PBD Action in FY 96
- \$1.1 million add in FY 96, \$0.5 million add in FY 97, \$1.3 million add in FY 98, and \$0.1 million decrease in FY 99 in Government Test/Support
- \$2.2 million add to initiate/complete Enhanced/Expanded Fire Control Computer (E^2FCC) for Block 30 in FY 97 \$6.0 million add to initiate/complete Common Configuration Implementation Program (CCIP) in FY 97
- \$5.8 million decrease in FY 97, \$0.1 million decrease in FY 98, and \$3.0 million add in FY 99 for Block 40 Modular Mission Computer (MMC) Engineering Manufacturing Development (EMD)
 - \$15.8 million decrease in FY 97, \$23.5 million decrease in FY 98, and \$4.0 million decrease in FY 99 for Operational Flight Program (OFP) Updates \$6.0 million decrease in FY 96, \$0.6 million decrease in FY 97, \$0.6 million decrease in FY 98, and \$13.7 million decrease in FY 99 for Flight Tests
 - \$26.5 million decrease in Integrated Modular Avionics (IMA)
- \$5.7 million decrease in FY 96 and \$1.2 million decrease in FY 97 for Mid-Life Update (MLU)
- \$9.0 million decrease in FY 96, \$6.6 million decrease in FY 97, and \$0.2 million decrease in FY 98 for Block 40 CAS

Project 2671

Page 4 of 10 Pages

Exhibit R-2 (PE 0207133F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	M JUSTIFIC	CATIO	N SHE	ET (R-	2 Exhib	it)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development			PE NUMI 0207	PE NUMBER AND TITLE 0207133F F-16	DE NUMBER AND TITLE 0207133F F-16 Squadrons	rons			PROJE 2671	РРОЈЕСТ 2671
 \$4.8 million decrease in FY 96, \$3.4 million decrease in FY 97, \$0.6 add in FY 98, and \$1.1 million decrease in FY 99 for Block 30 GPS \$0.5 million decrease in FY 96 and \$3.6 million decrease in FY 98 for Unit Training Devices (UTDs) \$1.1 decrease in FY 96 and \$1.0 million decrease in FY 97 for P & W 229 Engines \$3.0 million identified in FY 96 and \$8.7 million identified in FY 97 by the F-16 System Program Office for redistribution among higher priority projects. (Initial plan FY 96: +\$1.0 million for Government Test /Support, +\$1.1 million to restore P&W 229 Engines, +\$0.9 million for Additional Studies, initial plan FY 97: +\$3.8 million for Government Test/Support, +\$2.0 million for OFP Updates, +\$1.0 million for restore P&W 229 Engines, +\$0.9 million for MLU, \$0.5 million for additional Studies, +\$0.2 million for Block 30 GPS, and +\$0.2 million for Flight Test Support) 	on decrease in F nillion decrease i lecrease in FY 97 million identifiec vernment Test /S Test/Support, +\$ million for Block	Y 97, \$0.6 n FY 98 fo for P & W lin FY 97 upport, +\$ 22.0 millior x 30 GPS, a	add in FY or Unit Tra 7229 Eng by the F- 1.1 millio 1 for OFP and +\$0.2	98, and \$1 ining Devi ines 16 System I n to restore Updates, + million for	.1 million of ces (UTDs) rogram Off P&W 229 I \$1.0 million	ecrease in I	Y 99 for BI ttribution an).9 million f	ock 30 GPS rong higher p or additional rgines, +\$0.9	riority project Studies; initia million for M	s. - - -
 Schedule: Modular Mission Computer (MMC) development extended from FY 98 through FY 01 On-Board Oxygen Generating System (OBOGS) is a new start in FY 96 Support Equipment development is a new start in FY 99 (Previously planned but zeroed due to budget pressures) IMA (previously scheduled for an FY 99 new start) canceled LINK 16 development/integration initiated in FY 98 Color Display development initiated in FY 98 CCIP is a new start in FY 97 E^2 FCC for Block 30 is a new start in FY 97 	development extended from FY 98 through FY 01 n (OBOGS) is a new start in FY 96 rnew start in FY 99 (Previously planned but zeroe 7 99 new start) canceled itiated in FY 98 in FY 98 in FY 98	d from FY start in FY Previously ed	98 throug 96 planned b	ih FY 01 ut zeroed d	ue to budge	pressures)				
Technical: The improved capabilities inherent in adding LINK 16, Color Display, OBOGS and plans for future Improved Flight Controls in FY 01	ing LINK 16, Co	olor Display	y, obog	S and plans	for future I	nproved Fl	ght Control	3 in FY 01		
(U) C. Other Program Funding Summary (\$ in Thousands)	10usands)									
PE 0207133F, F-16 SQUADRONS, AIRCRAFT PROCUREMENT (APPN 3010), AF (U) F-16 APAF, BA-2 (U) F-16 Modifications, BA-5 (U) F-16 Post Production Support, BA-7	EY 1996 FY 157,129 154 115,591 116 122,326 66	FY 1997 FY 154,754 116,152 17 66,589 2	FY 1998 173,563 22,402	FY 1999 207,904 28,323	FY 2000 281,715 16,429	FY 2001 226,156 13,677	FY 2002 186,119 13,248	FY 2003 194,978 13,304	To Compl TBD TBD TBD	Total Cost TBD TBD
(U) D. Schedule Profile										
	FY 1996			FY 1997		FY 1998	866		FY 1999	
Project 2671		Pag	Page 5 of 10 Pages	Pages			Exhibi	Exhibit R-2 (PE 0207133F)	07133F)	
			1335							

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RDT&E BUDGET ITE	M JUSTIFICA	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207133F F-16 Squadrons	
	7 8 6		107
(U) ENGINEERING MILESTONES:)		4. C 2 1
CDR	×		
Blk 50T4 CDR			
Blk 25/30 Software (SW) Update SCU-2			
F-16 Close Air Support (CAS) SRR			
	×		
	×		
CDR	: ×		
BIk 40 CAS SW CDR	×		
BIk 25/30 SCU-3	×		
Blk 50T4 FCA/PCA		×	
BIk 50T5 CDR		*	
(U) T&E MILESTONES		•	
Flight Tests Dev Test & Eval (DT&E)			
Blk 40 CAS DT&E Start		*	
MLU DT&E Start			
MMC DT&E Start			
(U) CONTRACT MILESTONES.			
Continue MLU			
Continue MMC			
Blk 40 CAS			
LINK 16		*	
MMC		*	
Color Display		*	
On-Board Oxygen Generating System	*	×	
CCIP (T&M)		*	
Comet/AISF (Support Equipment)			*
Digital Terrain System Mod			*
Block 30 GPS EMD	*		>
Advanced Weapons Integration Dev	*		< >
Block 30 Night Vision System Mod		*	<
Screech Reduction for F110-129s Mod		*	
Block 30 Enh Fire Cont Computer Mod			*
Project 2671		Page 6 of 10 Pages	Exhibit R-2 (PE 0207133E)
			1001 1000 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (F	-2 Exhibit)	DATE	February 1997
вироет аститу 7 - Operational System Development	PE NUMBER AND TITLE 0207133F F-16	PE NUMBER AND TITLE 0207133F F-16 Squadrons		PROJECT 2671
FY 1996	$\frac{\text{FY 1997}}{7}$	EY 1	1998	FY 1999
X=Effort Completed *=Effort Started	7	-		
(U) A. Project Cost Breakdown (\$ in Thousands)				
EX	FY 1996 FY 1997	FY 1998	FY 1999	
_	0	0	0	
(U) LINK 16 (U) Unit Training Devices (UTDs)	0 0 0 0 3.416	9,400 3,000	13,200 4,179	
(U) Government Test/Support		1,325	0	
Flight Tests Developmental Test & Evaluation	.,	37,600	32,535	
(U) Mid-Life Update	11,600 1,500	0065	-	
Modular Mission Computer (MMC)		3,700	3,000	
	39,100 39,400	24,608	34,984	
	_	2,000	1,293	
(U) Blk 30 Global Positioning System (GPS) Integration	8,100 4,500	4,700	3,200 3,900	
		000,0	4,200	
		0	0	
	1,500 1,000	0	0	
(U) ECIT PBD Action	1,400 0	0	0	
(U) Enhanced/Expanded Fire Control Computer Bk 30		0 0	0	
(U) Common Contiguration Implementation Program (CCIP) (II) ID for Redistribution within Program by E-16 CDO*	3 027 8 664	> C	-	
	12	100.233	100,491	
4, Funding Change Summary			•	
Project 2671	Page 7 of 10 Pages		Exhibit R-2 (Exhibit R-2 (PE 0207133F)
	1227			

RDT&E PROGRAM EL		EMENT/PROJECT		COST BREAKDOWN (R-3)	AKDOW	N (R-3)		DATE	Fohritan, 1007	700
BUDGET ACTIVITY 7 - Operational System Development	velopment			PE NUMBER AND TITLE 0207133F F-16	D ТІТLE F-16 Squadrons	drons			o con con con con con con con con con co	PROJECT
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	and Planning Info	rmation (\$ in	Thousands)							
Performing Organizations:										
tor or nent Performing		Performing	Project	Total						
Activity or Funding Vehicle	ng Obligation <u>Date</u>	Activity <u>EAC</u>	Office <u>EAC</u>	Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to	Total
Froduct Development Organizations Mid-Life Update (MLU) Airframe Kit Develonment I ankhood Martin Tactical Airmage G.	Cit Develonment	. Lockhood, Mo	ovtin Tootio	A two was fit for						
LMTAS (Au) SS/CPIF LMTAS (Unau)	Jan 92	71,956	73,100 12,768	al Aircrait Sys 69,336 1 228	ems (Livi i A 9,590	40				73,126
MLU Radar Kit Development			12,700	1,220						7,054
WEC (Au) SS/CPIF	Mar 92	11,149	11,769	10,842	385	542				11,769
Misc. Contractors				7.744	1625	810				0
Iission Computer					2001	91				10,28/
LMTAS SS/CPIF Jan 92	Jan 92	243,900	253,100	219,424	29,984	10,930	3,700	3,000	TBD	TBD
LMTAS SS/CPIF	vevelopment (OFF Sep 94	17,225	17 225	17 225						
Other MMC-Related Activities			27,11	(77,11						17,225
Misc. Main Fuel Shutoff Valve				5,653						20,567
LMTAS SS/FPIF	Mar 95	497	497	497						407
Government Furnished Equipment Loan Payback LMTAS Sen 05	oan Payback Sep 95	100	100	1						}
ction Capability	cc dec	1,100	1,100	1,100						1,100
LMTAS SS/FFP Comet/AISF	Sep 95	3,500	3,500	3,500						3,500
TBD TBD TBD Unit Training Devices (UTDs)	FY 99			157,900				4,200	TBD	TBD
Project 2671			Page 8	Page 8 of 10 Pages			Exhibit	Exhibit R-3 (PF 0207133E)	107133E)	
								, I	1001	

RDT&E	PROGRAM	TELEME	NT/PRO.	JECT	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	AKDOW	N (R-3)		DATE FA	February 1997	67
BUDGET ACTIVITY 7 - Operational System Development	tem Develop	ment			PE NUMBER AND TITLE 0207133F F-16 Squadrons	тте F-16 Saua	drons			o luai y	PROJECT
Contractor or	Contract										
Government Performing Activity	Method/Type	Award or	Performing	Project	Total						
	Vehicle	Date	ACIIVIIIY EAC	CHICE	Frior to FV 1996	Budget FV 1996	Budget FV 1997	Budget FV 1008	Budget	Budget to	Total
TBD	TBD	1096			200	0//1	3416	3 000	4 170	Tran	rogram
Blk 40 Close Air Support (CAS)	CAS)	,					6,116	2,000	4,117	Jai	IBD
LMTAS	Proj Orders	Jan 95	25,318	25,318	25,318						25 318
LMTAS	SS/CPIF	Feb. 95	•			19.053	10.000	5.900			36 033
OFP Updates							2006	20,10			50,33
LMTAS	CPIF/T&M	Dec 95				39.100	39.400	24.608	34 984	TRD	TBD
Smart Weapons Integration	_							2004.1	1,101	OG!	IBD
TBD	TBD	3096				6.950	12.020	7 000	1 203	TBD	TDD
Avionics Upgrades								2225	0/261	a a	Car
LMTAS	SS/FFP				\$ 000						000
Blk 30 Global Positioning System (GPS)	ystem (GPS)				20,5						2,000
TBD	TBD	2096				8.100	4 500	4 700	3 200		71.700
Bik 30 GPS Pre-Integration	-	′				2016	2,,,), i	0,400		71,/00
LMTAS	SS/FPIF	Sep 95	970	970	970						020
Other Complete Contracts		ı									0/6
JWW/91 MNIT					943,130						943,130
I METAS	í										
Color Display	ටී	2098						9,400	13,200	TBD	TBD
	TBD	FY 99						3,000	2 000	t dit	É
Improved Fit Control								3,000	3,500	IBD	180
	TBD	FY 01								TRD	Tar
CCIP (T&M)											OOT
TBD TBD Feb 97	TBD	Feb 97	6,000	6,000		6.000					0009
On-Board Oxygen Generat	ing System (OB	(SSO)									0,000
LMTAS	SS/CPIF	36 Inf	2,500	2,500		1,500	1,000				2.500
Enhanced/Expanded Fire Control Computer (E^2FCC) Bk 30	ntrol Computer (E^2FCC) Bk	30				`				
	SS/FFP	Feb 97	2,200	2,200			2.200				2 200
ECIT PBD Action	Form 616	Done	1,400	1,400		1,400	ì				7,400
Project 2671				Page	Page 9 of 10 Pages			Exhibit	Exhibit R-3 (PF 0207133E)	07133E)	
					000.				2	200	

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RDT&E BUDGET ITEM JU	STIFICA	TION SE	EM JUSTIFICATION SHEET (R-2 EXHIBIT)	EXHIB	E		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development		PE N	PE NUMBER AND TITLE 0207133F F-16	D TITLE F-16 Squadrons	rons			2	PROJECT 2671
Contractor or Contract Government Performing Method/Type Award or Pending Obligation A Vehicle Date E.	Performing P. Activity OEAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Support and Management Organizations F-16 SPO (In-House Color of the August Aug			176,022	0	2				176,022
Contractor Spt			89,650	3100	200	1,325			94,575
Test and Evaluation Organizations Flight Tests Government Contractors LMTAS	195,531 63,000	195,531 63,000	29,057 10,413	13,300	9,000	28,600 9,000	23,535	TBD	TBD
Identified forRedistribution Within Program by F-16 System TBD TBD TBD	6 System Program Office (SPO) TBD 11,691 11,691	e (SPO) 11,691	•	3,027	8,664			TBD	TBD
(U) B. Budget Acquisition and Planning Information (\$ in Thousands)	Thousands)								
Government Furnished Property: Not Applicable									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Withheld For Redristribution by F-16 SPO Total Project		1,563,267 265,672 39,470 1,868,409	63,267 117,687 165,672 3,100 39,470 22,300 3,027 168,409 146,114	90, 26, 8, 8, 126,	966 61,308 500 1,325 098 37,600 664 0 ,228 100,233	-	67,956 0 32,535 0 00,491	1BD 2, 1BD 1BD 1BD 1BD 1BD 1BD 1BD 1BD 1BD 1BD	TBD 270,597 TBD TBD TBD
Project 2671		Page 10 o	Page 10 of 10 Pages			Exhibit	Exhibit R-2 (PE 0207133F)	207133F)	
		1340	c						

PE NUMBER: 0207134F

UNCLASSIFIED

PE TITLE: F-15E Squadrons

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	2-2 Exhi	bit)		DATE FeI	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	it		PE NI 020	PE NUMBER AND TITLE 0207134F F-15E	PE NUMBER AND TITLE 0207134F F-15E Squadrons	ladrons				PROJECT 0131
COST'(\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
0131 Initial Operational Test and Evaluation	160,917	150,981	137,538	109,798	123,742	112,284	100,043	53,242	53,242 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	20 A/C

(U) A. Mission Description and Budget Item Justification

The F-15E is the most versatile fighter in the world today. Configured with conformal fuel tanks (CFTs), the F-15E can deploy worldwide with minimal tanker support and arrive combat-ready. The F-15E retains air superiority capability and adds systems, such as Low Altitude Navigation Targeting Infrared for Night (LANTIRN), to meet the weather detection and kill capabilities. The F-15E's avionics, armament, airframe, and engines must be improved to maintain its superiority against the threat into the next century. Avionics updates, exploiting proven technological advances, are being incorporated into the F-15E providing expanded capability and supporting an updated and requirement for all-weather, deep penetration, and night/under-the-weather, air-to-surface attack. However, the threat includes a new generation of aircraft possessing allfully integrated electronic warfare suite. As a result, this project develops enhanced offensive and defensive capability and survivability.

(The F-15E PE also funds RDT&E activities for PE # 0207130, F-15A-D). The F-15E, which received contract award approval in FY84, is an operational aircraft and therefore the development activities in the PE are included in Budget Activity 7, Operational Systems Development.

(U) FY 1996 (\$ in Thousands):

- Continued development and testing of F-15 improvements including GPS, ECCM, and APG-63 radar. (U) \$86,295
 - (U) \$32,589 Continued OFP development efforts.
- Continued development of improvements attributed to Diminishing Manufacturing Sources (DMS). (U) \$7,700
 - (U) \$0,827 Repaired government furnished equipment used for R&D.
- (U \$1,900 Continued development of PW-229 engine improvements.
- Continued software development, airframe component qualification, and flight test preparation for GE-129 engine. Continued flight test of the OFP and flight testing of improvements initiated in prior years. (U) \$17,446 (U) \$1,160
 - (U) \$13,000 Expanded development of the Programmable Armament Control Set (PACS) upgrade.
 - (U) \$160,917 Total

Exhibit R-2 (PE 0207134F)

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Page 1 of 8 Pages

Project 0131

RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207134F F-15E Squadrons	February 1997 PROJECT
 (U) £Y 1997 (\$\frac{\pmatrix}{\pmatrix}\$ in Thousand\$\pmatrix\$): (U) \$60,021 Continue development and testing of F-15 improvements including ECCM and APG-63 in the continue OFP development efforts. (U) \$33,406 Continue OFP development of DMS. (U) \$1,020 Repair government furnished equipment used for R&D. (U) \$1,000 Continue development of -229 engine improvements. (U) \$26,398 Continue development of PACS upgrade. (U) \$0,500 TEWS Intermediate Support System (TISS) replacement. (U) \$15,000 Development of ALQ-135, Band 1.5 Total 	nd testing of F-15 improvements including ECCM and APG-63 radar, ant efforts. contibuted to DMS. shed equipment used for R&D. -229 engine improvements. OFP and flight testing of improvements initiated in prior years. PACS upgrade. ort System (TISS) replacement 5, Band 1.5	
 (U) \$FY 1998 (\hat{\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	-63 radar. rovements initiated in prior years. em (JHMCS).	
Project 0131 $Pa_{ m c}$	Page 2 of 8 Pages	Exhibit R-2 (PE 0207134F)

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RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibi	t)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207134F F-15E	1111	Squadrons		РRОЈЕСТ 0131
 (U) FY 1999 (\$\\$\\$\\$\\$\in Thousands\$\): (U) \$36,448 Continue OFP development efforts. (U) \$18,200 Continue flight test of the OFP and flight testing of improvements initiated in prior years. (U) \$14,700 Continue development of the ALQ-135 Band 1.5. (U) \$13,840 Continue development of the Combat ID System. (U) \$6,770 Continue development of the JHMCS. (U) \$3,490 Development of the Air Data Processor (ADP). (U) \$1,730 Continue development of PACS upgrade. (U) \$1,730 Continue development of PACS upgrade. (U) \$1,440 TISS replacement (U) \$1,440 TISS replacement (U) \$109,798 Total 	the OFP and flight testing of impression of the Link-16 data link for the F. tof the ALQ-135 Band 1.5. Is attributed to DMS. tof the Combat ID System. tof the JHMCS. ir Data Processor (ADP). ir Data Processor (ADP). Trished equipment used for R&D.	ovements initiat	ed in prior years.			
(U) Previous President's Budget (FY97) (U) Appropriated Value	<u>FY 1996</u> 160,288 171,337	FY 1997 143,095 158,095	<u>FY 1998</u> 114,523	FY 1999 96,230	Total Cost Continuing	
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 PB 	-3,354 -4,074 +0,624 -3,616	-3,788 -3,788 150,981	+23,015	+13,568		
Project 0131	Page	Page 3 of 8 Pages			Exhibit R-2 (PE 0207134F)	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SH	IEET (R	-2 Exhil	bit)		DATE		
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207134F F-15E	TITLE Sau	Sauadrons		rec	repruary 1997 PROJ	997 PROJECT
(U) Change Summary Explanation: Funding: Funds added in FY98 and FY99 due to changes in Fighter Configuration Plan (FICOP) priorities. Major adds are F-15E Link-16 data link and the ALQ-135 Band 1.5. Major reduction in FY98 and FY99 is Programmable Armament Control Set (PACS)	due to changes in Fighter Configuration Plan (FICOP) prid FY99 is Programmable Armament Control Set (PACS)	s in Fighter (grammable	Configuration	n Plan (FICC	JP) prioritie	s. Major ade	ds are F-15E	Link-16 dat	a link and the	ALQ-
Schedule: PAC S delayed two years in FiCop due to budget constraints.	op due to bud	get constrain	its.	100 100 100	.(6)					
Technical: No changes. (U) C. Other Program Funding Summary (\$ in '	Thousands)									
(U) Aircraft Procurement BP10 (PE0270134F)(U) Aircraft Procurement BP11 (Mods)(U) Aircraft Procurement BP13 (Post Prod Spt)	FY 1996 351,253 87,285 6,978	FY 1997 275,183 158,869 7,493	FY 1998 170,000 169,568 8,089	FY 1999 165,000 193,121 8,149	FY 2000 0 228,312 8,167	FY 2001 0 273,677 8,239	FY 2002 0 324,428 8,368	FY 2003 0 328,564 8.426	To Compl 0 TBD	Total Cost TBD TBD
(U) D. Schedule Profile										
-	FY 1996	•	싪.	FY 1997		FY 1998	∞]		FY 1999	
(U) JHMCS DT start	?	4	7	m	4 - X	7	3 4	1 2	60	4
(U) PACS CDR		×			<					
(U) OFP Suite 3					×					
(U) MSIP DT&E start		×								
(U) E-model DT&E start				×						
(U) E-model release					×		>			
(U) OFP Suite 4 VCC CDR							<		>	
(U) APG-63 ground integration test start (U) APG-63 DT flight test start			×		;				<	
(U) APG-63 OT flight test start					×		>			
(U) Link-16 DT start							<	×		
(U) ALQ-135, Band 1.5 development start				>				×		
(U) TISS replacement					×					
Project 0131			Page 4 of 8 Pages	Pages			Exhibit	Exhibit R.2 (DE 0207434E)	07434E)	
								17-2 11 5-11	1347	

BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE			
	0207134F F-15E	E Squadrons	44	PROJECT 0131
(U) A. Project Cost Breakdown (\$ in Thousands)				
FY 1996 FY 1	FY 1997	FY 1998	FY 1999	
17,446	26,398	17,300	18.200	
32,589	33,406	41,175	36,448	
2,827	0,952	0	0	
link	0	6,200	14,700	
81,840	59,069	37,320	0	
Cueing System	0 0	6,270	3,980	
(I) GFE/GFP Renair	0 00	0 00	0	
1.20,0	1,020	0,000	0,000	
nce 7,700	5.963	8.100	8.600	
13,000	7,673	0.523	1,730	
r GE -129 Engine 1,160	0	0	0	
(U) Combat ID 0	0	1,790	6,770	
0	15,000	15,900	13,840	
	0	0	3,490	
Replacement 0	0,500	2,360	1,440	
(U) Total 160,917 150,9	150,981	137,538	109,798	

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RD	RDT&E PROGRAM EL	GRAM EL		EMENT/PROJECT	COSTE	3REAKD	COST BREAKDOWN (R-3)	3)	DATE E.	Fahrijany 1997	207
BUDGET ACTIVITY 7 - Operational System Developme	al System D		t		PE NUMBE 020713	PE NUMBER AND TITLE 0207134F F-15E	Squadrons	St			PROJECT 0131
(U) B. Budget Ac	Budget Acquisition History and Plannir	ry and Plannin	g Information	g Information (\$ in Thousands)	(Spi						
Performing Organizations:	ıizations:					÷					
Contractor or Government Performing	Contract Method/Type	Award or	Performing	Project	Total						
Activity	Vehicle	Date	EAC	EAC	FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	ent Organization	ις									
McAir (ECCM)	CPFF	Feb 94	10,629	10,629	6,850	2,827	0,952				10,629
P&W (-229 Eng)	CPAF	Sep 94	7,235	7,235	3,620	1,628	1 000				7,235
GE (-129 Eng)		•	7,130	7,130	5,970	1,700	1,000				6,520
McAir (GFF/GFP)	FFP	Dec 93	5,447	5,447	0,500	0,827	1,020	0,600	0,600	1,900	5,447
OFP	CPIF	Oct 97	261,505	261.505	4.657	32.589	33 406	41 175	36 448	112 220	202 120
Development					, , , , , , , , , , , , , , , , , , ,	76,77	001,00	41,17	30,440	113,230	201,505
McAir APG63 (Feasability	CPFF	Feb 94	0,778	0,778	0,778						778
Study) (Pick Paduction)	2000	to to	0								
(EMD)	CPAF	Feb 94 Sep 94	9,892	9,892	9,892	01 040	070 03	77.00			9,892
McAir (JHMCS	CPIF	Nov 97	14,230	14,230	070,00	01,040	600,80	57,320 6,270	3,980	3,980	234,057
A-D) PACS Upgrade		May 95	37 353	17 151		12,000	CE3 E	603.0	i i		
Wright Lab	MIPR/PRs	Sep 94	71,109	71,109	4,346	7,700	7,07,2 5,963	8,100	1,730 8,600	10,100 36,400	33,026 71,109
Smart Weapons Integration	CPIF	Nov 99	40,640	40,640						40,640	40,640
ADP(E)	CPIF	Nov 98	5,280	5,280					3,490	1,790	5,280
Project 0131				$P_{\mathcal{C}}$	Page 6 of 8 Pages	ies		Exh	Exhibit R-3 (PE 0207134F)	0207134F)	

RD	RDT&E PROGRAM EI		EMENT/PROJECT	ROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	al System Do	evelopmer	+2		PE NUMBER AN 0207134F	PE NUMBER AND TITLE 0207134F F-15E	D TITLE F-15E Squadrons	SI.		0	РРОЈЕСТ 0131
Contractor or Government Performing <u>Activity</u> ADCP(E)	Contract Method/Type or Funding Vehicle CPIF	Award or Obligation <u>Date</u> Dec 99	Performing Activity EAC 53.280	Project Office EAC 53.280	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete 53.280	Total Program 53.280
NGA (ALQ-135 Band 1.5) Link-16 data link Combat ID	CPIF CPIF CPIF	May 97 Nov 97 Jan 98 Aug 97	73,320 73,320 20,900 24,890	73,320 20,900 24,890			15,000	15,900 6,200 1,790 2,360	13,840 14,700 6,770 1,440	28,580	73,320 20,900 24,890 4,300
Keplacement Support and Management Organizations (Msn Spt) Misc.	ement Organizat	ions			16,708						16,708
Test and Evaluation Organizations McAir (Flt Test) FFP Edwards (OFP) PO Eglin (Flt Test) PO	<u>Organizations</u> FFP PO PO	Oct 96 Oct 96 Oct 96			37,210 23,292 4,269	4,105 8,200 5,141	14,442 9,556 2,400	9,579 5,891 1,830	7,000 6,400 4,800	33,000 64,455 15,000	105,336 117,794 33,440
									:		
Project 0131				P	Page 7 of 8 Pages	ses		Ext	Exhibit R-3 (PE 0207134F)	0207134F)	

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RDT&	E PROC	RDT&E PROGRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BE	REAKDO	WN (R-3		DATE	de de de	703
BUDGET ACTIVITY 7 - Operational System Development	ystem De	evelopmen	11	PE NUMBER AND TITLE 0207134F F-15E	AND TITLE	Squadrons			PROJ	PROJECT
(U) B. Budget Acquis	ition Histor	y and Plannin	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	n Thousands)						
Government Furnished Property:	d Property:									
C. M Item or Description V.	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Subtotal Product Development Subtotal Support and Management	opment anagement			98,048	143,471	124,583	120,238	91,598	306,230	884,168
Subtotal Test and Evaluation	ation			64,771	17,446	26,398	17,300	18,200	112,455	16,708 256,570
Total Project				179,527	160,917	150,981	137,538	109,798	418,685	1,157,446
Project 0131			Pag	Page 8 of 8 Pages			Fxhii	Exhibit R-3 (PF 0207134E)	0207134E)	
				1348				7 11 0 11 10	11011070	

PE NUMBER: 0207136F
PE TITLE: Manned Destructive Supression

RDT&E BUDGET ITE	EM JUS	TIFICAL	ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)	EET (R	-2 EXHI	BIT)		DATE Fel	February 1997	265
BUDGET ACTIVITY 7 - Operational System Development	+		PE NI 020	PE NUMBER AND TITLE 0207136F Manr	TITLE Nanned C	PE NUMBER AND TITLE 0207136F Manned Destructive Supression	re Supre			PROJECT 2671
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2671 F-16 HARM Targeting System (HTS)	10,208	11,821	13,561	2,492	0	0	0	0	0	144,816
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(U) A. <u>Mission Description and Budget Item Justification</u> The Manned Destructive Suppression (MDS) program funds the development, procurement and sustainment of the Air Force's lethal Suppression of Enemy Air Defenses (SEAD) capability. The program provides certain F-16 aircraft the capability to carry and employ the AGM-88 High-Speed Anti-Radiation Missile (HARM). The F-16C/Blk 50 has been modified to carry the AN/ASQ-213 HARM Targeting System (HTS) for real-time targeting and "range known" HARM employment—the missile's most lethal mode. Additionally, the MDS program has funded efforts investigating the feasibility of integrating preemptive destruction weapons or decoys on the F-16 or F-15. The Air Force is evaluating Light Defender on the F-15E for its potential to satisfy preemptive destruction requirements. The Light Defender Foreign Comparative Test (FCT) proposal was approved in FY95 as the USAF's highest priority FCT.	stification program func ovides certain the AN/ASQ MDS program Light Defenc	Is the develch F-16 aircrech has funder funder ler on the F-16 at the Frey as the	Instification 1) program funds the development, procurement and sustai provides certain F-16 aircraft the capability to carry and eny the AN/ASQ-213 HARM Targeting System (HTS) for rue MDS program has funded efforts investigating the feasified Light Defender on the F-15E for its potential to satisfy pras approved in FY95 as the USAF's highest priority FCT.	urement and lilty to carry system (HTS) stigating the otential to sa otential to sa shest priority.	l sustainment and employ () for real-tin e feasibility of atisfy preemy r FCT.	t of the Air F the AGM-81 ne targeting a of integrating ptive destruc	orce's lethal 8 High-Spee and "range k greemptive tion require	<u>Instification</u> 1) program funds the development, procurement and sustainment of the Air Force's lethal Suppression of Enemy Air program funds the development, procurement and sustainment of the AGM-88 High-Speed Anti-Radiation Missile (Introvides certain F-16 aircraft the capability to carry and employ the AGM-88 High-Speed Anti-Radiation Missile (Introvides CAI) HARM Targeting System (HTS) for real-time targeting and "range known" HARM employmented MDS program has funded efforts investigating the feasibility of integrating preemptive destruction weapons or despite Defender on the F-15E for its potential to satisfy preemptive destruction requirements. The Light Defender as approved in FY95 as the USAF's highest priority FCT.	of Enemy / ation Missile tM employm weapons or ight Defend	Air (HARM). tentthe decoys on er
(U) FY 1996 (U) \$512 Complete R5 software upgrade and the developmental flight test support. (U) \$3,227 Begin EMD on HTS Upgrade. (U) \$4,800 Light Defender FCT (U) \$1,669 Mission Support (U) \$10,208 Total	e upgrade and Upgrade.	the develop	mental flight	test support	ند					
(U) FY 1997 - (U) \$8502 Continue EMD of HTS Upgrade development. - (U) \$937 Develop HTS-specific Air Force Mission Support System (AFMSS) modifications. - (U) \$1,492 Mission Support - (U) \$1,492 Mission Support - (U) \$11,821 Total	TS Upgrade development. Ic Air Force Mission Supp Evaluation.	velopment. ission Suppo	ort System (4	AFMSS) moc	difications.					
Project 2671			Page I of 6 Pages	6 Pages			Exhibi	Exhibit R-2 (PE 0207136F)	207136F)	

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		- - - -		(316)	repruary 1897	ואפר לו
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207136F Manr	ID TITLE	PE NUMBER AND TITLE 0207136F Manned Destructive Supression		РКОЈЕСТ 2671
 (U) FY 1998 (V) \$8,479 (V) \$958 (V) \$958 (V) \$1,000 (V) \$1,000 (V) \$1,000 (V) \$1,000 (V) \$1,439 (V) \$1,439 (V) \$13,561 (V) \$13,561 (V) \$10,000 (V) \$13,561 (V) \$10,000 (V) \$10,000<!--</td--><td>/elopment. ssion Support Syst</td><td>em (AFMSS) 1</td><td>nodifications.</td><td></td><td></td><td></td>	/elopment. ssion Support Syst	em (AFMSS) 1	nodifications.			
(U) <u>FY 1999</u> - (U) 1,995 Continue EMD of HTS upgrade development (U) 497 HTS Test and Evaluation (U) 2,492 Total	elopment.					
 (U) B. Program Change Summary (\$\sin Thousands\$) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value: a. General Congressional Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogramming d. Below Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/FY98 PB 	FY 1996 2,908 10,908 (213) (231) (109) (147)	FY 1997 12,384 12,384 (251) (300) (12) (12)	FY 1998 11,914 1,647 13,561	EV 1999 2,365 127 2,492		
Project 2671	Page	Page 2 of 6 Pages		Ä	Exhibit R-2 (PE 0207136F)	36F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
7 - Operational System Development	0207136F Manned Destructive Supression	

(U) Change Summary Explanation:

Funding:

- Additionally, the Air Force increased funding in FY98 to accommodate additional flight test of the HTS/F-16 50T5 system and realigned mission support funds HTS: Although HTS was initially fielded as an interim solution, the Air Force transitioned to a longer term approach and significantly increased sustainment funds. This increase in sustainment funding allowed the Air Force to transfer RDT&E funds allocated to sustaining engineering to O&M beginning in FY00. to more accurately reflect the type of work supported (RDT&E, procurement, and sustainment).
- Light Defender: This project was initially funded in FY95 as part of the F-15 MDS project. Congress increased the FY96 PB \$5,000,000 to expand the scope of the Light Defender foreign comparative test (FCT). Funding for follow on testing provided by Congress is currently sufficient for the Air Force to reach a procurement decision by fall 1998.

Schedule: Air Force began the HTS upgrade in Feb 96. By linking HTS development with the current F-16 Operational Flight Program (OFP) schedule, we expect to field this upgrade in FY99. Light Defender test planning began in Sep 95, and completed the FCT flight demonstration in Sep 96. Following a review of FCT results the Air Force expects to resume follow on testing in Jan 97 and end in late FY97 or in early FY98.

Technical: The AF accelerated the HTS upgrade based on options developed during the prototyping study completed in Jun. 95.

(U) C. Other Program Funding Summary (\$ in Thousands)

										То	Total
		FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Compl	Cost
(U) HTS Aircraft 1	(U) HTS Aircraft Procurement, AF PE 0207136F	3,541		12,172	13,779	145	1	0		0	29.637
(U) HTS Ops & Ma	(U) HTS Ops & Maintenance, AF PE 0207136F	3,443	6,440		7,641	7,090	8.762	8.718	9.682 Conf	Continuing	TRD
(U) Foreign Compa	(U) Foreign Comparative Tests, OSD PE	2,778				0		0		0	2 778
0605130D						ı	•	•		>	277,7
Related RDT&E:	PE 0207133F, F-16 Squadrons.		PE060	05130D, Foreign	eign Compar	ative Tests					

- NOTES: a.) Prior to FY96 the HTS was funded under a classified PE. FY97-FY01 funding includes retrofit of new buy Lot 1, Procurement of new buy Lot 2, upgrade retrofit and program office support (FY98-FY00).
- b.) FY97-FY01 funding includes Air Force MSS (AFMSS) and WTT sustaining support, contractor sustaining engineering, depot development, repair, program office support and other related support activities.

Project 2671

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Page 3 of 6 Pages

Exhibit R-2 (PE 0207136F)

RDT&E BUDGET IT	T ITEM JUSTIFICAT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	February 1997
вирдет Астіvіт 7 - Operational System Development	ment	PE NUMBER AND TITLE 0207136F Manned Destructive Supression		PROJECT 2671
U) D. Schedule Profile				
(U) F-16 HTS Upgrade Development	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	FY 1997		FY 1999 2 3 4 X
(U) HTS 50T5 Flight Test			×	
(U) F-16 HTS Upgrade Deliveries (Field this upgrade in FY99/FY00)				×
(U) Light Defender FCT	×			
(U) Light Defender Follow On Testing		×		
Project 2671		Page 4 of 6 Pages	Exhibit R-2 (PE 0207136E)	7136F)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT CC	ST BREAK	(DOWN (R.		DATE February 1997	
BUDGET ACTIVITY 7 - Operational System Development	<u>a</u> 0	PE NUMBER AND TITLE 0207136F Manr	LE nned Destru	PE NUMBER AND TITLE 0207136F Manned Destructive Supression		PROJECT 2671
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 199 <u>6</u>	FY 1997	FY 1998	FY 1999		
(U) HTS R5 Software Upgrade (U) Test & Evaluation	512	0	0	0		
 (U) HTS Upgrade Project (U) HTS Pod Development (U) ActhSystem Integration (U) Test & Evaluation (U) Training & Support Equip Development 	3,227	5,802 2,700 890 937	8,479 2,685 958	1,995 0 497 0		
(U) Mission Support	1,669	1,492	1,439	0		
(U) Light Defender Foreign Comparative Test	4,800					
(U) Total	10,208	11,821	13561	2,492		
NOTE: FY95 and prior year HTS funding reported under a separate program element, with the exception of \$5,400,000 RDT&E reprogrammed into this PE from FY93 & FY94 and \$11,587,000 FY95 RDT&E realigned to the HTS project in FY96.	gram elemen 796.	t, with the excepti	on of \$5,400,000	RDT&E reprogram	ımed into this PE from F	/93 &
Project 2671	Page 5	Page 5 of 6 Pages		Exhibit F	Exhibit R-3 (PE 0207136F)	

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8	RDT&E BUDGET IT	IDGET II	TEM JUSTIFICATION SHEET (R-2 EXHIBIT	FICATIO	N SHEE	T (R-2 E	XHIBIT)		DATE	February 1997	2007
BUDGET ACTIVITY 7 - Operational System Development	System De	elopme	Ħ		PE NUMBE 020713	PE NUMBER AND TITLE 0207136F Mann	PE NUMBER AND TITLE 0207136F Manned Destructive Supression	ictive Sup	1	coluary	PROJECT 2671
(U) B. Budget Acquisition History and Plannin	isition Histor	y and Plannir	ng Information (\$ in Thousands)	(\$ in Thousar	(Spi						
Performing Organizations:	ations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations Texas Instruments SS/CPAF Texas Instruments SS/CPAF Lockheed Ft Worth TBD AFMSS Classified	Organizations SS/CPAF SS/CPAF TBD	Various Feb 96 Various	7,193 30,500 TBD TBD	7,193	5,975 15,246 0	938 2,289 0	293 5,509 2,700 937	0 8,479 958	0 1,995 0	0 0	7,206 33,518 2,700
Support and Management Organizations Prog. Office Supt Various	nent Organizati Various	ions Various			0	1,669	1,492	1,439			4,600
Test and Evaluation Organizations Eglin PO Various Edwards PO Various Light Defender Various Support Orgs. Government Furnished Property: Not Applicable.	rganizations PO PO PO ed Property: 1	Various Various Various Not Applicabl	<u> </u>		0 0 922	512	740	1,020	420		2,692 1,892 5,722
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lopment Management uation				21,221	3,227 1,669 5,312	9,439 1,492 890	9,437 1,439 2,685	1,995		45,319
Total Project					22,143	10,208	11,821	13,561	2,492		60,225
Project 2671				Pc	Page 6 of 6 Pages	ડેલ્ડ ર		Ē	Exhibit R-2 (PE 0207136F)	. 0207136F)	
•					1354						

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PE NUMBER: 0207141F

UNCLASSIFIED

PE TITLE: F-117A Squadrons

RDT&E BUDGET IT	EM JUS	STIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	LEET (F	R-2 Exhi	bit)		DATE F.	Eahriism, 1007	700
BUDGET ACTIVITY								-	Diddiy i	221
7 - Operational System Development			020	0207141F F-117	PE NUMBER AND TITLE 0207141F F-117A Squadrons	quadrons				PROJECT 3956
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
									complete	
3956 F-117A Stealth Fighter	3,647	11,797	9,520	5,251	5,016	2,987	2,440	3,780	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	O

(U) A. Mission Description and Budget Item Justification

currently the single operational F-117A unit is stationed at Holloman AFB. The program uses Aircraft Procurement Air Force (APAF) modification (BA-5) money for integration, threat system, and technology quick look studies as required by the user. This program is in budget activity 7, Operational System Development, because These improvements will enhance combat capability while maintaining a safe, reliable, and supportable aircraft. The F-117A is currently planned to be in service at engineering and manufacturing development (EMD). The final F-117A delivery to the Air Force (number 59) was July 1990. The program is well past production; an extensive modification program to keep the F-117A current with operational system and reliability/maintainability upgrades. Some of the modification projects require development efforts before they are integrated into the fleet (RDT&E money). In addition, small amounts of F-117A RDT&E funding, support quick look The F-117A is the world's only operational low-observable (LO) combat aircraft. Its combination of stealth and precision weapons delivery capability allows the United States Air Force to hold even the most highly defended targets at risk. This program provides funds to develop improved systems for the F-117A aircraft. least through the year 2015. The major research budget activity category is operational systems development; in addition, some research being performed is all aircraft have been delivered and program is now in its deployment phase.

single configuration of leading edges compatible with the overall Low Observable aircraft system. The next modification will develop a new fuel tank inerting system development work for the MIL-STD-1760 Stores Management Processor. This modification will enable the platform to integrate advanced weapons such as the Joint spray coating application techniques and panel access technologies to improve the reliability and maintainability of the weapon system. This modification will allow This project currently provides research and development for multiple modifications for the F-117A weapons system. The first FY 98 RDT&E effort continues the which will conform to environmental standards. The current aircraft inerting system uses halon, an ozone layer depleting chemical which is being withdrawn from Direct Attack Munition (JDAM) & the Wind Corrected Munitions Dispenser (WCMD). The second FY 98 RDT&E subproject will continue development of new the weapon system to move towards a single configuration for all F-117 airframes. This subproject will also include efforts to move the weapon system towards a

RI	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Exhaust 1007
BUDGET ACTIVITY 7 - Operational S	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207141F F-117A Squadrons	PROJECT 3956
(U) A. Mission Descr	(U) A. Mission Description and Budget Item Justification - Continued		
(U) FY 1996 (\$ in Thousands): - (U) \$1,839 Developm - (U) \$1,808 Developm - (U) \$3,647 Total	ent work on St ent work on Si	ores Management system Processor (SMP) (formerly known as MIL-STD-1760) ingle Configuration Fleet (SCF) (formerly known as RAM recoating)	6
(U) FY 1997 (\$ in Thousands): (U) \$5,227 Continue (U) \$4,420 Continue (U) \$2,150 Developm (U) \$11,797 Total	Thousands): Continue development work on SMP Continue development work on SCF Development work on Ozone Depleting Chemical Total		
(U) FY 1998 (\$\frac{\psi}{\psi}\$ in Thousands): - (U) \$4,958 Continue - (U) \$4,264 Continue - (U) \$298 Smart wee - (U) \$9,520 Total	Thousands): Continue development work on SMP Continue development work on SCF Smart weapons integration Total		
(U) FY 1999 (\$ in Thousands): - (U) \$4,855 Continue - (U) \$396 Continue - (U) \$5,251 Total	[housands]: Continue development work on SMP Continue smart weapons integration Total		
Project 3956	Pag	Page 2 of 7 Pages	Exhibit R-2 (PE 0207141F)

RDT&E BUDGET ITEM JUST	IFICATION	N SHEET (TEM JUSTIFICATION SHEET (R-2 Exhibit)	it)	DATE February 1997	266
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207141F F-117	D ТІТLE F-117A Squadrons	ladrons		РКОЈЕСТ 3956
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 3,881 3,881	FY 1997 12,050 12,050	FY 1998 5,001	FY 1999 0	Total <u>Cost</u> TBD	
 a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 PB 	-82 -81 30 -3 -3 -38	-253	4,519	5,251	TRID	
(U) Change Summary Explanation: Funding: See Technical Summary below.						
Schedule: Technical: Additional funds (\$4.6M) were provided in FY98 for the continuation of the Single Configuration Fleet modification (\$4.3M) and the initiation of Smart Weapons Integration effort (\$.3M). Additional funds (\$5.3M) were also provided in FY99 for the continuation of the Smart Weapons Integration effort (\$.4M) and the continuation of the Stores Management system Processor modification (\$4.9M).	98 for the contii Is (\$5.3M) were tem Processor n	nuation of the Si also provided in nodification (\$4.	ngle Configurati FY99 for the co 9M).	on Fleet modific	Provided in FY98 for the continuation of the Single Configuration Fleet modification (\$4.3M) and the initiation of Additional funds (\$5.3M) were also provided in FY99 for the continuation of the Smart Weapons Integration effort Management system Processor modification (\$4.9M).	on of effort
Project 3956	Page	Page 3 of 7 Pages		Ш	Exhibit R-2 (PE 0207141F)	

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RDT&E BUDGET ITI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICAT	TION SH	IEET (R	-2 Exhi	bit)		DATE F.	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207141F F-117	١∢	Squadrons			E K	3956
(U) C. Other Program Funding Summary (\$ in T	n Thousands)									
(U) Aircraft Procurement (BA-5), Annu	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
3010/BP1100, AF F117A Squadrons, PE 27141F	46,271	29,209	28,296	29,326	30,212	33,122	30,895	23,657	TBD	TBD
F117A Squadrons, PE 27141F	366	400	366	513	524	535	541	537	TBD	TBD
(U) D. Schedule Profile										
-	FY 1996	-	- 	FY 1997		FY 1998		•	Y 199	
(U) F3 IRADS (RDT&E Start FY93, Retroft Start Mar 05 Finish for 07)	1	r	1 4 FT	n	1		ر 4		3	4
(U) RNIP+ (RDT&E Start Aug 91, Retrofit			~							
Start Oct 96 Finish Jun 00)			ı							
Start Oct 96, Finish Jun 00)			×							
(U) SMP (RDT&E Start Jul 96; Retrofit		Q								-
Start Oct 99 Finish Sep 03)										
(U) SCF (RDT&E Start Apr 96, Retrofit Start Oct 99 Finish Mar 04)	Ω									-
(U) HI-Pressure Turbine Cooling Plate						~				
Retrofit CA FY 2/98, Finish FY 3/01						4				
(U) High Temperature Edges Retrofit CA FY 2/93. Finish FY 2/98						Į.,				
(U) Single Configuration Fleet Retrofit CA								~	~	
r 1 2/33, rulish r 1 3/04 (U) Stores Management Processor Upgrade								C C		
Retrofit Contract Award (CA) FY 2/99, Finish FY 1/02								4		
(U) Replace Life-Limited Skin Panels & Web retrofit CA FY 2/99, Finish FY 2/04								æ	•	,
Project 3956			Page 4 of 7 Pages	Pages			Exhibit	Exhibit R-2 (PF 0207141F)	07141E)	
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RDT&E BUDGET ITEM JUS	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R-2	Exhibit)		DATE Fahriism, 1007	
BUDGET ACTIVITY 7 - Operational System Development	PE N 02(PE NUMBER AND TITLE 0207141F F-117	D TITLE F-117A Squadrons	ls su	PROJECT 3956	ļ.
(U) Ozone Depleting Chemical upgrade (RDT&E Start Feb 97, Retrofit Start Jan 99 Finish Dec 03) (U) Smart Weapons Integration (RDT&E Start Oct 97) $D = \text{Development}, R = \text{Retrofit}, F = \text{Finish}$	<u>1996</u> 3 4 1	FY 1997 2 3 4 D	- 2 E	3 4	F F 3 4	
(U) A. Project Cost Breakdown (\$ in Thousands)	<u>FY 1996</u>	FY 1997	FY 1998	FY 1999		
(U) Development work on SMP (MIL-STD-1760)(U) Development work on SCF (RAM recoating)(U) Development work on Ozone Depleting Chemical(U) Smart weapons integration	1,839	5,227 4,420 2,150	4,958 4,264	4,855		
(U) Total (U) B. Budget Acquisition History and Planning Information (\$\mathbf{s}\$ in Thousands)	3,647	11,797	9,520	5,251		
Performing Organizations:						
Project 3956	Page 5 of 7 Pages	7 Pages		Exhibit	Exhibit R-2 (PE 0207141F)	

RDT&E PROGRAM EL	OGRAM E		EMENT/PROJECT COST BREAKDOWN (R-3)	TCOST	T BREA	KDOWN	I (R-3)		DATE	Fahriiam, 1007	
BUDGET ACTIVITY 7 - Operational System Development) Developme	į		PE NUI 0207	PE NUMBER AND TITLE 0207141F F-117	D TITLE F-117A Squ	Squadrons			e P	PROJECT 3956
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Compl	Total Program
Product Development Organizations Smart Wpn Integration Sacramento Air Logistics Center. McClellan AFR CA	<u>ions</u> Allot	1 Oct 97	contin.	contin.		0	0	298	396	11,800	12,196
Single Configuration Fleet (RAM Recoat Modification) Wright Laboratory, Signature	AF 616	Apr 96	100	100		100	0	0	0	0	100
Sandia Labs, Albuquerque NM Lockheed Martin Skunk Works (RAM), Palmdale CA	MIPR T&M	May 96 Jun 96	4,000 6,558	4,000 6,558		500 1,208	2,620	780	0	0	3,900 6,492
Ozone Depleting Modification Lockheed Martin Skunk Works (Ozone), Palmdale CA	CPFF	Feb 97	2,200	2,200		0	2,150	0	0	0	2,150
SMS Processor (Mil-Std-1760 modification) Lockheed Martin Skunk Works (1760), Palmdale CA	CPAF	96 lul	19,439	19,439		1,839	5,227	4,958	4,855	2,400	19,279
Support and Management Organizations N/A	izations N/A										:
Test and Evaluation Organizations N/A	N/A									4	
Project 3956				Pace 6 of 7 Paces	Ponces			:: :: ::	ני ני	7	
				I use o of /	1 ages			EXHIBIT	EXHIBIT K-3 (PE 020/141F)	207141F)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	OST BREAKDOWN	I (R-3)	ΔO	DATE Febr	February 1997	_
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207141F F-117A Squadrons	Jadrons			PR 39	PROJECT 3956
Government Furnished Property: N/A						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	3,647	11,797	9,520	5,251	14,200	44,415
Total Project	3,647	11,797	9,520	5,251	14,200	44,415
Project 3956	Page 7 of 7 Pages		Exhibit R.	Exhibit R.3 (DE 0207141E)	71416)	
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PE NUMBER: 0207161F

UNCLASSIFIED

PE TITLE: Tactical AIM Missile

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	k-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	+		PE NI 020	PE NUMBER AND TITLE 0207161F Tactical AIM Missile	नाम् actical A	IM Missi			4	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Complete	Total Cost
4132 AIM-9 Product Improvement	18,982	31,798	53,171	54,031	41,806	17,479	2,785	0	0	220,052
Quantity of RDT&E Articles	0	0	S.	7	1	0	0	0	0	23
Notes The DINT of Control of 1									_	

Note: The RDT&E articles are deliverables under the Engineering and Manufacturing Development contract and are not separately priced.

(U) A. Mission Description and Budget Item Justification

tracking of enemy aircraft and complements the Advanced Medium Range Air-to-Air Missile. Air superiority in the SRM arena is essential and includes first shot, first kill opportunity against an enemy employing IR countermeasures. The AIM-9X is a long-term evolution to the AIM-9, a fielded system, qualifying this as research category operational systems development. Improvements in missile seeker and kinematics allow retrofit of components to current missiles to the maximum extent possible. Retrofitting of components will extend the operational effectiveness of existing inventories at an affordable cost while continuing evolution of the AIM-9 The AIM-9 Sidewinder short range air-to-air missile (SRM) is a launch and leave, air combat munition that uses passive infrared (IR) energy for acquisition and series. This program is in budget activity 7 - Operational System Development, Research Category 6.7 because it is an improvement to a fielded missile system. AIM-9X is an ACAT I joint-service program with Navy lead.

(U) FY 1996 (\$ in Thousands):

Continued engineering support from China Lake and other agencies for program definition and risk reduction. Prepared request for proposal for AIM-9X EMD (Not Separately Priced [NSP])

Began preparation and analysis for Milestone II decision to enter Phase II, EMD (NSP). (U) \$0 (U) \$0 (U) \$18,982

FY 1997 (\$ in Thousands): 3

- Awarded contract for EMD. (U) \$13,060
- Continued sustaining engineering and in-house efforts (U) \$16,738
- Began EMD development test (DT-IIA and captive carry tests)
 - Total (U) \$2,000 (U) \$31,798

Project 4132

Page 1 of 6 Pages

Exhibit R-2 (PE 0207161F)

RDT&E	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION	SHEET (R-2 Exhibi	(a)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Developmer	Development		PE NUMBER AND TITLE 0207161F Tacti	PENUMBER AND TITLE 0207161F Tactical AIM Missile	Missile	PROJECT 4132
(U) FY 1998 (\$ in Thousands) - (U) \$31,000 Continue DT-IIB - (U) \$7,890 Continue - (U) \$2,300 Continue - (U) \$11,981 Provide fi - (U) \$53,171 Total	nousands): Continue manufacturing development, conduct Design Review II (DR II), fly captive test units, and start delivery of safe separation vehicles for DT-IIB Continue providing aircraft interface information to EMD contractor to include any available wind tunnel data. Continue preparations for DT-IIB and start DT-IIB. Provide for consulting services, technical engineering, and management support. Total	act Design R ation to EMI T-IIB, gineering, an	teview II (DR II) Contractor to ii nd management :), fly captive test nclude any availa support.	units, and start	delivery of safe separation vehicle I data.
(U) FY 1999 (\$ in Thousands): - (U) \$26,260 Continue - (U) \$6,590 Continue - (U) \$8,590 Complete - (U) \$12,591 Provide fi - (U) \$54,031 Total	nousands): Continue the manufacturing development contract. Continue providing aircraft interface to the EMD contractor. Relate results of wind tunnel. Complete DT-IIB and start DT-IIC. Provide for consulting services, technical engineering, and management support. Total	ntract. MD contrac gineering, an	stor. Relate resu 1d management	ilts of wind tunne. support.	<u>۔</u>	
(U) B. Program Change Summary (\$ in Thousands)	mary (\$ in Thousands)					
 (U) Previous President's Budget/FY 1997 PB (U) Appropriated Value (U) Adjustments to Appropriated Value 	E 77 PB	EY 1996 20,082 20,082	FY 1997 36,382 32,882	FY 1998 65,220	FY 1999 81,051	Total <u>Cost</u> 300,622
a. Cong recurectors b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	program 77 PB	-595 -291 -206 -87 -123	-392 -31 -31 31,798	-12,049	-27,020 54,031	220,052
(U) Change Summary Explanation: Funding: FY 96 reprogrammings/rescissio for PE 0604270F to support the electronic FY99) to offset Defense Business Operatir	nings/rescissio the electronic siness Operati	Bosnia I, -\$ process. FY s (-3,900 in 1	115 for Jordania 7 98 and FY 99 f FY97, -2,400 in	ın F-16s, -\$16 for unding adjustmer FY98, -14,200 ir	an administrati nts reflect reduc 1 FY99) resultir	ns include -\$206 for Bosnia I, -\$115 for Jordanian F-16s, -\$16 for an administration and personnel rescission, and -\$74 warfare partnership process. FY 98 and FY 99 funding adjustments reflect reductions (-9,150 in FY 98 and -12,200 in g Funds, and savings (-3,900 in FY97, -2,400 in FY98, -14,200 in FY99) resulting from Acquisition Reform Initiatives.
FI0Ject 4132		rage	rage 2 of 0 rages			EXMIDIT K-2 (PE 020/ 161F)

RDT&E BUDGET II	SET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHEE	T (R-21	xhibit)		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Developmen	opment	PE NUMBER AN 0207161F	PE NUMBER AND TITLE 0207161F Tacti	D TITLE Tactical AIM Missile	lissile	}	(mp.co.	PROJECT 4132
Schedule: The testing phase of the program was optimized by combining compatible developmental and operational test objectives. This change in schedule allows LRIP to begin one year earlier (FY 00 instead of FY 01).	ne program was optimized by con rlier (FY 00 instead of FY01).	nbining compatible	developmen	tal and opera	tional test ol	ojectives. Th	is change in sc	hedule
Technical: None,								
(U) C. Other Program Funding Summary (S in Thousands)	ary (\$ in Thousands)							
(U) Missile Procurement, Budget Activity 2, PE 0207161F, Program Title:	FY 1996 FY 1997 FY	FY 1998 FY 1999	FY 2000 36,182	FY 2001 42,593	FY 2002 69,953	FY 2003 70,625	To <u>Compl</u> 1,090,642	Total Cost 1,309,995
I actical Alm Missile (U) Qty			75	125	300	300	4200	2000
(U) Missile Procurement, Budget Activity 2, PE 0207590F, Program Title: SEEK EAGLE				6,180	0	8,674	0	14,854
Project 4132		Page 3 of 6 Pages	es		ш	xhibit R-2 (I	Exhibit R-2 (PE 0207161F)	
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RDT&E BUDGET	L	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
вирсет астіvіту 7 - Operational System Development	Development	PE NUMBER AND TITLE 0207161F Tactical AIM Missile	PROJECT 4132
(U) D. Schedule Profile			
(U) Acquisition Milestones MS II MS III	FY 1996 1 2 3 4 1 2Q/FY02	FY 1997 2 3 4 1 2 3	FY 1999 4 1 2 3 4
(U) Engineering Milestones DR I DR II TRR for TECHEVAL 40	4Q/FY00	×	×
(U) Test and Evaluation Milestones DT-IIA (Captive Carry) DT-IIB (Safe Separation) DT-IIC (Guided Launches) DT-IID (TECHEVAL) OT-IIA (Guided Launches) OT-IIB (OPEVAL) 4Q/	nes 1Q/FY00 4Q/FY00	×	× ×
(U) Contract Milestones EMD Award LRIP Award Production/Deployment 46	2Q/FY00 4Q/FY01		
Project 4132	Pag	Page 4 of 6 Pages	Exhibit R-2 (PE 0207161F)

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	3RAM EL	EMENT/F	ROJECT	COSTE	3REAKD	OWN (R-	3)	DATE F	February 1997	260
BUDGET ACTIVITY 7 - Operational System Developme	al System D	evelopmer	ent		PE NUMBE 020716	PE NUMBER AND TITLE 0207161F Tactical AIM Missile	al AIM Mi	ssile		₽ 4	PROJECT 4132
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	S in Thousanc	গ্র								
				FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) Project Cost Categoriesa. Primary Hardware Db. Government Enginesc. Contractor Engineerid. Miscellaneous	Project Cost Categories a. Primary Hardware Development b. Government Engineering Support c. Contractor Engineering Support d. Miscellaneous	ment upport port		11,399 4,881 181 1,084		13,060 11,344 4,180 720	31,000 10,361 7,890 920	26,240 11,055 6,590 880	0 5 0 0		
e. Developme f. Travel (U) Total	e. Development Test and Evaluation f. Travel Total	luation		1,061 376 18,982		2,000 494 31,798	2,300 700 53,171	7,590 676 54,031	0		<u>-</u>
(U) B. Budget Acquisition History and Plann	guisition Histor	y and Plannin	g Information	ing Information (S in Thousands)	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Hughes C/CPIF Raythcon C/CPIF Hughes (EMD) C/CPIF McDon-Doug C/CPIF NA WC CL WR Misc In-House	ent Organization C/CPIF C/CPIF C/CPIF WR	<u>s</u> Dec 94 Dec 94 Dec 96 Jan 96 Oct 96	5,694 5,695 100,596 20,910 76,499 6,136	5,694 5,695 100,596 20,910 76,499 6,105	00000	5,694 5,695 0 181 5,955 898	13,060 4,180 12,618 720	31,000 7,890 11,971 920	26,240 6,590 18,931 880	30,296 2,250 27,024 2,500	5,694 5,695 100,596 21,091 76,499 5,918
Project 4132				Р	Page 5 of 6 Pages	šeš		Exh	Exhibit R-3 (PE 0207161F)	0207161F)	
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RDT&	E PROC	RDT&E PROGRAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	WN (R-	3	DATE		
BUDGET ACTIVITY 7 - Operational System Developmen	ystem Do	evelopmen	<u> </u>		PE NUMBER 020716	PE NUMBER AND TITLE 0207161F Tactical AIM Missile	al AIM Mis	elise		reordary 1997	PROJECT
Contractor or Con Government Met Performing or F Activity Veh	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to	Total Program
Support and Management Organizations Various Contracts FFP	it Organizat	ions			0	559	1,220	1,390	1,390	0.	4,559
Test and Evaluation Organizations (Included in product development)	anizations (Included in pro	duct developm	tent)							
(U) B. Budget Acquisition History and Planning	ion History	v and Planning	<u> Information</u>	g Information Continued (S in Thousands)	in Thousands	~					
Government Furnished Property:	Property:										
Con Me Item or I Description	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property (Not applicable)	perty (Not	applicable)									
Support and Management Property (Not applicable	t Property (Not applicable	•								
Test and Evaluation Property (Included in product development)	erty (Inclu	led in product	development)								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ment 1agement ion					18,423 559	30,578 1,220	51,781	52,641	62,070	215,493
Total Project						18,982	31,798	53,171	54,031	62,070	220,052
Project 4132				Pas	Page 6 of 6 Pages	S		Exhi	Exhibit R-3 (PE 0207161F))207161F)	

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PE NUMBER: 0207163F

PE TITLE: Adv Med Range A/A Msl

UNCLASSIFIED

RDT&E BUDGET II	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	-2 Exhi	bit)		DATE FA	Fohriism, 1007	707
BUDGET ACTIVITY								5	Juany I	731
7 - Operational System Development			020 020	0207163F Adv I	TITLE I I I I I I I I I I I I I I I I I I I	PE NUMBER AND TITLE 0207163F Adv Med Range A/A MSI	A Msi	Ē	п со	PROJECT 3777
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
3777 AMRAAM	44,202	24,745	50,781	45,985	45,650	42,742	36,877	27,995		960.096
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	Ì	

(U) A. Mission Description and Budget Item Justification

Improvement (P31) program provides for a continuing, Joint Air Force/Navy research and development program which enables AMRAAM to: (1) be compatible with program include enhanced EP capabilities; improved weapon effectiveness through improved warhead, fuzing, and guidance; and increased kinematics via a new 5inch stretched rocket motor. This program is in budget activity 7 - Operational System Development, Research Category 6.7 providing upgrades to the AIM-120C developments, and (4) investigate new variants and/or alternate missions which may use many baseline missile attributes. Currently, improvements under the P3I The Air Force and Navy developed the baseline Advanced Medium Range Air-to-Air Missile (AMRAAM) as a high performance, all weather missile to counter advanced fighters, (2) enhance AMRAAM capability and operational flexibility against mid-1990's and beyond threats, (3) incorporate high payoff technology existing air vehicle threats operating at high or low altitude and having advanced Electronic Protection (EP) capabilities. The AMRAAM Pre-planned Product missile now in production. The AMRAAM program is an Air Force ACAT 1C program.

FY 1996 (\$ in Thousands): 9

- Continued P31 Phase 2 Engineering and Manufacturing Development (EMD) for Electronic protection (EP) and weapons effectiveness improvements. Initiated kinematic improvements (5- inch rocket motor) via modification of Phase 2 contract. Continued Phase 3 risk reduction to enhance EP and guidance capabilities. (U) \$32,536 (U) \$11,666
- Continued Navy participation in AMRAAM P3I Phase 1 & 2 programs with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN). (U) \$N/A
 - (U) \$44,202

FY 1997 (\$ in Thousands): 9

- Continue P31 Phase 2 EMD for EP, weapons effectiveness, and kinematic improvements. (U) \$16,462
 - Continue Phase 3 risk reduction to enhance EP and guidance. (U) \$8,283 (U) \$N/A
- Continue Navy participation in AMRAAM P3I Phase 2 program with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN)
 - Total (U) \$24,745

Project 3777

Exhibit R-2 (PE 0207163F)

Page 1 of 7 Pages

RDT&E BUDGET ITEM JU	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207163F Adv	ID TITLE Adv Med Ra	PE NUMBER AND TITLE 0207163F Adv Med Range A/A Msi	
 (U) FY 1998 (\$\frac{1}{8}\$ in Thousands): (U) \$36,470 Complete P3I Phase 2 EMD for EP, weapons effectiveness, and kinematic improvements. (U) \$14,311 Complete Phase 3 risk reduction to enhance EP and guidance, and initiate Phase 3 EP/Guidance EMD. (U) \$N/A Continue Navy participation in P3I Phase 2 program and begin Navy participation in P3I Phase 3 program with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN) (U) \$50,781 Total 	, weapons effective enhance EP and gu Phase 2 program a 1 compatibility (Fu	ness, and kinema iidance, and initia nd begin Navy pa nded by USN)	tic improvement te Phase 3 EP/Gı rticipation in P31	s. nidance EMD. I Phase 3 progran	1 with emphasis on Navy unique
 (U) FY 1999 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$42,801 Continue P31 Phase 3 EMD for EP and guidance EMD. (U) \$3,184 Complete P31 Phase 2 flight testing and contract close out. (U) \$N/A Continue Navy participation in AMRAAM P31 Phase 2 and 3 program with emphasis on Navy unique requirements and aircraft integration compatibility (Funded by USN) (U) \$45,985 Total 	and guidance EMD and contract close RAAM P3I Phase ?	out. 2 and 3 program v	vith emphasis on	Navy unique rec	puirements and aircraft integration
(U) B. Program Change Summary (\$ in Thousands)					
(U) Appropriated Value	FY 1996 42,311 47,311	FY 1997 25,883 25,883	<u>FY 1998</u> 75,051	<u>FY 1999</u> 39,293	Total <u>Cost</u> 702,937
 (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	-926 -991 -485 -417 -290	-569 -545 -24 -24	-24,270 50,781	6,692	960,069
(U) Change Summary Explanation:	l FY96 (+\$5,000) f. n General Congres scution.	or Phase 3 risk resional reductions	duction. In addit and SBIR. FY98	tion, FY96 fundir 8 and FY99 were	ng was reprogrammed to support Bosni adjusted by -\$24,270 and +6,692,
Project 3777	Pa	Page 2 of 7 Pages		ш	Exhibit R-2 (PE 0207163F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUST	IFICAT	HS NOI	EET (R	-2 Exhit	oit)		DATE Fel	February 1997	766
вирсет Астипу 7 - Operational System Developmen	ıt		PE NU 020.	PE NUMBER AND TITLE 0207163F Adv	ο τιτιε Adv Med Range A/A Msi	Range A/	A Msi		L (1)	РRОЈЕСТ 3777
Schedule: Phase 2 Tape 7A PDR/CDR have been completed on schedule. FCA(A) is scheduled for Mar 97 approximately four months late from original schedule. Tape 7A will be introduced in AIM-120C production Lot 9 (CY97 deliveries) and will be reprogrammed into Lot 8 AIM-120C missiles. Phase 2 Tape 7B PDR has been completed on schedule. Tape 7B CDR has been rescheduled from Oct 96 to Mar 97 to focus work force on Tape 7A after the contractor experienced a computer network problem. The revised schedule still supports Tape 7B introduction into AIM-120C production Lot 11 and reprogramming into all Lot 8, 9 and 10 missiles. The schedule also supports production incorporation of the improved warhead (weapon effectiveness) and new 5-inch stretched rocket motor (kinematic improvements) in AIM-120C production Lot 12 (CY00 deliveries). Phase 3 risk reduction efforts remain on track to support a 3rd quarter FY98 contract award.	ve been comple production Lot R has been ress ichedule still su roduction incorproduction Lot	sted on sche 9 (CY97 de cheduled fro pports Tape poration of 12 (CY00 de	dule. FCA(liveries) and om Oct 96 to 7B introduc the improved sliveries). P	A) is schedu d will be rep Mar 97 to f tion into AI d warhead (v hase 3 risk r	led for Marrogrammed Socus work for M-120C proweapon effeceduction effeceduction eff	97 approxin into Lot 8 A orce on Tap oduction Lot ctiveness) ar orts remain orts remain	nately four nately four nately four mand-120C me 7A after that 11 and reproduced new 5-incontrack to s	nonths late fissiles. Phase contractor ogramming the stretched in the phoort a 3rd	rom original se 2 Tape 7E experiencee into all Lot i rocket motor	schedule. PDR has d a 8, 9 and r
Technical: No change.										
(U) C. Other Program Funding Summary (S in Thousands)	Thousands)									
(II) Missile Descuirement Budget Activity. #7	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
(U) BP25 Replenishment Spares (U) BP25 Replenishment Spares (U) BP26 Initial Spares	177,116 12,734 4,781	116,178 13,414 3,865	117,768 0 1,082	124,636 10,337 2,713	151,286 10,826 2,793	165,808 10,745 2,777	148,457 10,770 2,839	174,909 10,691 2,884	564,900 45,332 4.645	7,178,970 147,771 85,579
(U) QTY Note: Total quantity includes 36 AMRAAM missiles previously procured for SEEK EAGLE testing.	291 iles previously ₁	133 procured for	173 SEEK EAC	196 3LE testing.	267	293	254	316	623	8,534
Project 3777			Page 3 of 7 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0207163F))207163F)	

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RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fahriiser 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207163F Adv Med Range A/A MsI	
(U) D. Schedule Profile		
(U) P31 Phase 2 Tape 7A FCA (U) P31 Phase 2 Tape 7A FCA (U) P31 Phase 2 Tape 7A FIt Test Comp (U) P31 Phase 2 Tape 7B FIt Test Comp (U) P31 Phase 2 Tape 7B FIt Test Comp (U) P31 Phase 2 Warhead CDR/FCA (U) P31 Phase 2 SCAS CDR/FCA (U) P31 Phase 2 SCAS CDR/FCA (U) P31 Phase 3 EMD Contract Award (U) P31 Phase 3 PDR (W) P31 Phase 3 PDR (W) P31 Phase 3 PDR	FY 1997 2 3 4 1 EY 1998 X X X X X X X X X X X X X X X X X X X	$\frac{\text{FY 1999}}{X}$
Project 3777	Page 4 of 7 Pages	Exhibit R-2 (PE 0207163F)

RE	RDT&E PROGRAM EI	GRAM EL	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	OWN (R-	3)	DATE	Fohrijam, 1007	6
BUDGET ACTIVITY 7 - Operational System Developme	ial System D	evelopme	 		PE NUMBE 020716	PE NUMBER AND TITLE 0207163F Adv Med Range A/A MSI	led Range	A/A Msi			PROJECT
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousand	ds)								
			j	FY 1996		FY 1997	FY 1998	FY 1999	_		
(U) Project Cost Categories	Zategories										
(U) a. Contract/COEA	OEA	(Jupour		33,710		16,201	38,622	36,689	_		
(U) c. GFE (U) d. Contractor Support	Support	() inddr		7,282, 0 3,210	700	5,909 25 7,610	9,123	6,091			
(II) Total						2,010	167,2	7,000			
(U) 10tai				44,202		24,745	50,781	45,985			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	y and Plannin	g Information	(\$ in Thousand	Įs)						
Performing Organizations:	nizations:										
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total						
Performing <u>Activity</u>	or Funding <u>Vehicle</u>	Obligation <u>Date</u>	Activity EAC	Office <u>EAC</u>	Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations	ent Organizations	***									
Misc. Contracts Various	FFP	Dec 95 - Mar 96	N/A	N/A	6,937	821	1,340	140	140	1,316	10,694
F08635-90-C-0201 Hughes	FFP	Aug 90	N/A	N/A	5,200						5,200
F08626-91-C-0034 Hughes	CPIF	Mar 91	91,704	93,506	93,506						93,506
F08626-93-C- 0044 (Phase 2) Hughes	CPAF	Jun 94	118,442	123,181	64,718	23,469	7,820	25,915	1,259	0	123,181
Project 3777				Pag	Page 5 of 7 Pages	sə		Exhil	Exhibit R-3 (PF 0207163F)	0207163E)	
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RE	RDT&E PROGRAM	GRAM EL		EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	JWN (R-	<u></u>	DATE	February 1997	76
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmen	<u> </u>		PE NUMBER AND TITLE 0207163F Adv	SF Adv M	БТПЕ Adv Med Range A/A MsI	A/A Msl			РВОЈЕСТ 3777
Contractor or Government Performing Activity Phase 3 Risk	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u> Oct 95	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996 5,071	Budget FY 1996 9,420	Budget FY 1997 7,041	Budget FY 1998 3,045	Budget <u>FY 1999</u> 0	Budget to Complete 0	Total Program 24,577
Reduction Phase 3 EP/Guidance		3Q FY98						9,521	35,290	116,239	161,050
EMD Contract Phase 3 Follow on		2Q FY03						0	0	113,014	113,014
Support and Management Organizations COEA PO/MIPR Jan Contractor Oct	Rement Organiza PO/MIPR PR/REO	tions Jan 94 Oct 95 -			3,358 6,799	3,210	2,609	2,938	2,880	18,941	3,358
JSPO Operations	REO/MIPR	Oct 95 - Sep 96			15,446	160	984	818	836	6,639	25,483
Test and Evaluation Organizations Government Test PO/MIPR	on Organizations PO/MIPR	Oct 95 - Sep 96			24,204	6,522	4,926	8,305	5,255	36,928	86,140
(U) B. Budget Acquisition History and Planning Government Furnished Property:	cquisition Histor nished Property:	ry and Plannin	g Information	g Information Continued (\$ in Thousands)	in Thousands	a					
Item <u>Description</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property None.	ent Property										
Project 3777				P.	Page 6 of 7 Pages	es		Exh	Exhibit R-3 (PE 0207163F)	0207163F)	
					1374						

RDT	RDT&E PROGRAM EI	1 1	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	EAKDO	WN (R-3		DATE	February 1997	797
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	¥	PE NUMBER AND TITLE 0207163F Adv I	AND TITLE F Adv Me	υτιτιε Adv Med Range A/A MsI	A/A Msi			PROJECT 3777
Item <u>Description</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Support and Management Property None.	ent Property									
Test and Evaluation Property TM/ECM Pods MIPR/	<u>roperty</u> MIPR/PO			2,380	0	25	66	325	3,687	6,516
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lopment Management uation			175,432 25,603 26,584	33,710 3,970 6,522	16,201 3,593 4,951	38,621 3,756 8,404	36,689 3,716 5,580	230,569 25,580 40,615	531,222 66,218 92,656
Total Project				227,619	44,202	24,745	50,781	45,985	296,764	960,069
Project 3777			Pa	Page 7 of 7 Pages			Exhit	Exhibit R-3 (PF 0207163F)	0207163E)	

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PE NUMBER: 0207217F

UNCLASSIFIED

PE TITLE: Podded Reconnaissance System

RDT&E BUDGET I	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOIL	HEET (F	R-2 Exhi	bit)		DATE Fol	Fehruary 1997	797
BUDGET ACTIVITY			100	City CLOSE					Judi y	5
nal System Developm	ent		020	0207217F Podd	0207217F Podded Reconnaissance System	econnais	ssance S	ystem	# 7	PROJECT 4611
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4611 Theater Airborne Reconnaissance System*	3,000	6,438	299	0	0	0	0	0	0	9,737
Quantity of RDT&E Articles	0	1	0	0	0	0	0	0	0	0

*For administrative purposes, Project number was changed from 3652 to 4611 beginning in FY97.

(U) A. Mission Description and Budget Item Justification

reconnaissance capability to support intelligence requirements of military, multinational, and other government agency users. It will provide literal, selective aspect electrooptical (EO) sensor imagery for bomb damage assessment. TARS will use on-board imagery recording and ground-based first phase imagery exploitation. It is intended to fill the penetrating, low altitude, under-the-weather medium-to-high threat niche not accomplished by current systems (national, UAVs, and other manned systems). TARS (U) The Theater Airborne Reconnaissance System (TARS) Podded Reconnaissance System (PRS) provides a responsive (on-demand), day/under-the-weather manned supports Combat Air Force (CAF) Mission Need Statement 328-93, Theater Airborne Reconnaissance System, 5 Jun 95.

Ground Systems (SGS), logistics support, and spares. It will be integrated into Air National Guard (ANG) Block 30 F-16C squadrons. Each TARS PRS system will provide a single forward/oblique EO sensor, sensor controller, wide-band recorder, second sensor window, and internal pod environmental control. The pod will interface with the (U) TARS will consist of 20 podded systems with embedded electro-optical (EO) sensor suites, provisions for a data link and second sensor, five transportable Squadron F-16 cockpit Electronic Warfare Management System. The PRS will also provide space and environmental control required to implement a second vertical/oblique EO sensor and provisions for a P31 (Pre-Planned Product Improvement) Common Data Link. The SGS will interface with Combat Intelligence System (CIS) terminals.

development and procurement of production shipsets. Second year activities include first article testing, delivery of production systems, SGS segments, integration, and (U) The TARS Program is in Budget Activity 7, Operational System Development. It involves commercial/government off-the-shelf technology and integration into operational (fielded) platforms. First year activities (FY96) included long lead item acquisition (pods, subsystem LRUs, etc.) and risk reduction to support first article initiation of ANG unit activations. Final year activities include continuing unit activations, integration of the mid-bay sensor, and P3I activities.

(U) Aeronautical Systems Center (ASC), Wright-Patterson AFB, OH is the lead development activity. TARS will be CIGSS and CDL compliant IAW Defense Airborne Reconnaissance Office guidelines. The acquisition strategy uses concurrent development/production and a firm fixed price contract.

Project 4611

Page 1 of 7 Pages

Exhibit R-2 (PE 0207217F)

RDT&E BUDGET ITEM JUSTIFICATIO	FEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207217F Podded Reconnaissance System	System	РРОЈЕСТ 4611
(U) A. Mission Description and Budget Item Justification (con't)			
(U) FY 1996 (\$ in Thousands):			
 (U) \$155 Training (U) \$100 Modeling and Simulation (U) \$2,700 Non-Recurring Engineering (U) \$45 Program Support (U) \$3,000 Total 			
(U) FY 1997 (\$ in Thousands): - (U) \$100 Modeling and Simulation - (U) \$1,000 Flight Test - (U) \$4,138 NRE - (1) \$200 SEEK FAGLE Stores Certification			
- (U) \$600 Miscellaneous - (U) \$600 Program support - (U) \$6,438 Total			
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$299 Program Support - (U) \$299 Total			
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) \$0 Total			
Project 4611 Pos	Page 2 of 7 Pages Exhi	Exhibit R-2 (PE 0207217F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (I	R-2 Exhibi	t)	DATE February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207217F Podd	TITLE Podded Rec	D TITLE Podded Reconnaissance System		РRОЈЕСТ 4611
(U) FY97 President's Budget	96 FY 1997 6,714	FY 1998	FY 1999	Total <u>Cost</u> 6,714	
(U) Adjustments to Appropriated Value a. Cong Reductions b. Small Business Innovative Research c. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB					
a.Add (U) FY 1998 President's Budget 3,000	00 6,438	299 299	0 0	9,737	
(U) Change Summary Explanation: Funding: \$299 (FY98 RDT&E) was added to the Podded Reconnaissance program element. Schedule: Not Applicable Technical: Not Applicable	nissance program elemen	ن			
Project 4611	Page 3 of 7 Pages		Ĕ	Exhibit R-2 (PE 0207217F)	

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RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TFICAT	ION S	IEET (R	-2 Exhil	oit)		DATE Fe	February 1997	97
вирбет Астиит 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207217F Podd	PE NUMBER AND TITLE 0207217F Podded Reconnaissance System	econnais	sance S	ystem	<u>4</u>	РРОЈЕСТ 4611
(U) C. Other Program Funding Summary (\$ in T	n Thousands)									
(U) Appn 3010, Procurement	FY 1996 33,700	FY 1997	FY 1998 6,221	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total <u>Cost</u> 39,921
(U) D. Schedule Profile										
	FY 1996 2 3	4 ;	1 2	FY 1997 2 3	4 1	FY 1998 2	3 88 4	-	FY 1999 2 3	4
(U) Source Selection / Contract Award (U) Devel/test/procurement/IOC (U) Mid-Bay sensor decision/procure (U) P31	<	< ×	×	×	×	×××	×××	××	××	
										•
Project 4611			Page 4 of 7 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0207217F)	0207217F)	
			,							

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RDT&E PROGRAM ELEMENT	-EMENT/PROJECT COST BREAKDOWN (R-3)	JST BREAK	DOWN (R-3		DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	<u>a</u>)	PE NUMBER AND TITLE 0207217F Podd	D TITLE Podded Reconnaissance System	aissance Sy	stem	PROJECT 4611
(U) A. Project Cost Breakdown (\$ in Thousands)						
	FY 1996	FY 1997	FY 1998	<u>FY 1999</u>		
(U) Training	155	c	C			
(U) SEEK EAGLE Stores Certification	0	200	0			
(U) Modeling and Simulation (II) Non-Recurring Engineering	100	100	0			
	7,700	4,138	0 0			
(U) Flight test	0	1000	0			
(U) Program Support	45	400	299			
(U) Total	3,000	6,438	299			
Project 4611	Page 5	Page 5 of 7 Pages		Exhibit R	Exhibit R-3 (DE 0007017E)	
		200			1-3 (FL 020/21/F)	

RI	RDT&E PROGRAM EL	RAM ELE	EMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COST BI	REAKDO	OWN (R-	3)	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operation	вирсет астилт 7 - Operational System Development	velopment			PE NUMBER AND TITLE 0207217F Podd	AND TITLE	PE NUMBER AND TITLE 0207217F Podded Reconnaissance System	naissance	e System		PROJECT 4611
(U) B. Budget A	(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	and Planning	Information (\$	in Thousand	[8]						
Performing Orga	Performing Organizations: (Note: Reason for TBDs - Change of major subcontractor and expected Engineering Change Proposal. Contract modification to be signed by end of Mar 97.)	Reason for TBE Mar 97.)	s - Change of	major subcont	tractor and ex	pected Engin	cering Chang	e Proposal.	Contract mod	lification to be	e signed
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Developm ASC DESC (M&S) SEEK EAGLE	ASC (M&S) MIPR SEEK EAGLE TBD	27 Sep 96 8 Oct 96 TBD	TBD N/A N/A	TBD N/A N/A	000	2,900 100 0	5,138 100 200	299	000	000	8,337
Support and Mana TBD	Support and Management Organizations TBD TBD TBD	ons TBD	TBD	TBD	0	0	TBD	TBD	,	•	TBD
Test and Evaluation Organizations AFFTC TBD	on Organizations TBD	TBD	N/A	N/A	0	0	1000	0	0	0	1000
· · · · · · · · · · · · · · · · · · ·											
Project 4611				Pas	Page 6 of 7 Pages	Sz		Ď	chibit R-3 (Pl	Exhibit R-3 (PE 0207217F)	

RDT&E PROGRAM EL	GRAM EL	EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-	(5)	DATE Fe	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	evelopmer	1	PE NUMBER AND TITLE 0207217F Podd	AND TITLE F Podde	PE NUMBER AND TITLE 0207217F Podded Reconnaissance System	aissance	System	4	РРОЈЕСТ 4611
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	ry and Plannin	g Information Continued (\$ i	in Thousands						
Government Furnished Property: DCRsi Tape Contract Method/Type Award or or Funding Obligation	: DCRsi Tape Award or Obligation	Recorders and Rack Mount Delivery	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
Description Vehicle Product Development Property TBD TBD	<u>Date</u> TBD	<u>Date</u> TBD	<u>FY 1996</u>	FY 1996	<u>FY 1997</u> TBD	<u>FY 1998</u> TBD	FY 1999	Complete	Program TBD
ort and Manage		TBD			TBD	TBD			TBD
Test and Evaluation Property TBD TBD	TBD	TBD			TBD	TBD			TBD
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			000	3,000 0 0	5,438 0 1000	299 0 0			8,737 0 1,000
Total Project			0	3,000	6,438	299			9,737
Project 4611		Pa	Page 7 of 7 Pages	s		Exh	Exhibit R-3 (PE 0207217F)	0207217F)	
			1202						

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PE NUMBER: 0207247F

UNCLASSIFIED

PE TITLE: Air Force TENCAP

RDT&E BUDGET IT	EM JUS	STIFICA	TION S	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhi	bit)		DATE Fol	February 1997	97
RUDGET ACTIVITY								5	Judaly 15	3.0
7 - Operational System Development	ايد		02(02(PENUMBER AND TITLE 0207247F Air Force TENCAP	TITLE V ir Force	TENCAP			a 0	PROJECT 0001
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
0001 Air ForceTENCAP	20,556	19102	15251	16277	20436	20290	20661	21133	21133 Confinuing Continuing	Continuing
Outside of DDT9E Actions									D	8
מממוווין טו אט ואב אוווטפא	0	0	0	0	0	0	0	0	0	0
(II) A Miceion Description and Dudget Item I.	T 4: 6:									

pursue seamless integration of present and future national space systems' capabilities into military operations for the warfighter. TENCAP expedites improvements to Air Force TENCAP is a Congressionally directed program to provide the Tactical Exploitation of National Capabilities (TENCAP). The objective of TENCAP is to Air Force combat capabilities by performing operational concept demonstrations with rapid prototyping. TENCAP is not a developmental program per normal acquisition guidelines, but does support future operational systems development. To enhance combat effectiveness, TENCAP will focus in three areas:

- 1) Exploit existing national systems for the tactical warfighter (TENCAP will conceive and demonstrate capabilities to exploit national systems).
- 2) Influence the design and operation of new national systems for the warfighter by advocating tactical impacts of the new systems (in the form of analysis and integration of national systems into roadmaps and architectures for Air Force weapons/C4I systems)
 - 3) Educate warfighters about national systems capabilities (in the form of training, exercises, and readiness activities).

Since this effort supports fielded systems, it is in the budget activity #7 Operational Systems Development.

(U) FY 1996 (\$ in Thousands):

- Exploit the tactical use of existing national systems for the warfighter (U) \$18,398
- -- Talon Warrior (Support for training, exercises, and TENCAP applications)
 - -- Talon Ready (Support mission planning)
- -- Talon Shooter (Support for weapons delivery)
- -- Talon Knight (Support Special Operations)
- -- Talon Command (Support for Air Force C2 systems)
- -- Talon Vision (Support for emerging technologies and applications) ransition of TENCAP Concept Demonstrations to field \$425
 - Program support (U) \$425 (U) \$1,733 (U) \$20,556 \$1,733

Project 0001

Page 1 of 4 Pages

Exhibit R-2 (PE 0207247F)

RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R-2 Exhibit)	DATE Fohrson 1007
BUDGET ACTIVITY 7 - Operational Sy	- Operational System Development 020	PE NUMBER AND TITLE 0207247F Air Force TENCAP	PROJECT 0001
(U) \$15,602 Exploit the control of t	e tactical use of existing national systems for th farrior (Support for training, exercises, and TEN eady (Support mission planning) hooter (Support for weapons delivery) night (Support Special Operations) ommand (Support for Air Force C2 systems) ision (Support for emerging technologies and all of TENCAP Concept Demonstrations to field upport	fighter applications) tions)	
(U) \$12,751 Exploit th - (U) \$12,751 Exploit th - Talon W - Talon R - Talon SI - Talon SI - Talon V	Exploit the tactical use of existing national systems for the warfighter Talon Warrior (Support for training, exercises, and TENCAP applications) Talon Ready (Support mission planning) Talon Shooter (Support for weapons delivery) Talon Knight (Support Special Operations) Talon Command (Support for Air Force C2 systems) Talon Vision (Support for emerging technologies and applications) Transition of TENCAP Concept Demonstrations to field Program support	fighter applications) tions)	
(U) \$13,577 Exploit th - (U) \$13,577 Exploit th - Talon W - Talon R - Talon S - Talon C	Housands): Exploit the tactical use of existing national systems for the warfighter—Talon Warrior (Support for training, exercises, and TENCAP applications)—Talon Ready (Support mission planning)—Talon Shooter (Support for weapons delivery)—Talon Knight (Support Special Operations)—Talon Command (Support for Air Force C2 systems)—Talon Vision (Support for emerging technologies and applications)	ighter applications) ions)	
Project 0001	Page 2 of 4 Pages		Exhibit R-2 (PE 0207247F)

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RDT&E BUDGET ITEM JUSTIFI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-2 Exhib	it)	DATE Febru	February 1997	
вирдет АСТІVITY 7 - Operational System Development	PE NUMBER AN 0207247F	PE NUMBER AND TITLE 0207247F Air Force TENCAP	ENCAP		PROJECT 0001	СТ
 (U) \$800 Transition of TENCAP Concept Demonstrations to field (U) \$1,900 Program support (U) \$16,277 Total 	ions to field					
in Thousands)	FY 1996 FY 1997 20,707 20,116 21,966 20,116	7 <u>FY 1998</u> 6 18,895 6	FY 1999 20,046	Total Cost Continuing		
 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescission (U) Adjustments to Budget Years Since FY1997 PB (U) Current Budget Submit/President's Budget 	-801 -497 -459 -517 -15 -135 20,556 19,102	7 7 -3644 2 15,251	-3,769 16,277	Continuing		
 (U) Change Summary Explanation: Funding: FY98/99 reductions fund other AF and DoD priorities. Schedule: N/A Technical: N/A 	ś					
(U) C. Other Program Funding Summary (\$\mathbb{s}\$ in Thousands) \text{FY 1996} \text{FY} \text{1996} \text{FY} \text{10} \text{Other Procurement, BA 3, BPAC 2070}	FY 1997 FY 1998 F 196 198	FY 1999 FY 2000 199 203	FY 2001 E 208	FY 2002 FY 2003 211 211	To Compl Cont	Total Cost Cont
(U) D. <u>Schedule Profile:</u> Not applicable. TENCAP is not organized as an acquisition program	as an acquisition prog	ram.				· · · · · · · · · · · · · · · · · · ·
Project 0001	Page 3 of 4 Pages	iges		Exhibit R-2 (PE 0207247F)	7247F)	
	1387					

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RD	RDT&E PROGRAM EL	GRAM EL		EMENT/PROJECT	COSTB	REAKD	COST BREAKDOWN (R-3)	<u>8</u>	DATE	Fohrism, 1007	200
BUDGET ACTIVITY 7 - Operational System Developmen	al System D	evelopme!	nt		PE NUMBE 020724	PE NUMBER AND TITLE 0207247F Air Fo	PE NUMBER AND TITLE 0207247F Air Force TENCAP	AP		ebidaly is	PROJECT
(U) A. Project Cost Breakdown (\$ in Thousands): Not applicable.	ost Breakdown	(\$ in Thousand	ds): Not applic	able.							
(U) B. Budget Acquisition History and Plannin	quisition Histor	ry and Plannir	lg Information	g Information (\$ in Thousands)	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations: None.	ent Organization	S. None.									
Support and Management Organizations: Multiple Various Mu Lockheed Martin CPAF Sep	gement Organiza Various CPAF	<u>utions:</u> Multiple Sep 95	Cont	Cont	18,510	8,489 12,067	9,102 10,000	5,251	6,277	Cont	Cont
Test and Evaluation Organizations: None.	1 Organizations:	None.									
Government Furnished Property: Not applicable. No Government property furnished to non-Government entities.	ished Property:	Not applicable	e. No Governn	nent property f	umished to no	n-Governmen	ıt entities.				-
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment nd Management valuation				0 18,510 0	0 20,556 0	0 19,102 0	15,251	16,277	Cont	Cont
Total Project					18,510	20,556	19,102	15,251	16,277	Cont	Cont
Project 0001				P_{ϵ}	Page 4 of 4 Pages	Se		ËXP	Exhibit R-3 (PE 0207247F)	0207247E)	
					1388						

PE NUMBER: 0207268F

UNCLASSIFIED

PE TITLE: / 0604268F Aircraft Engine Component Improvement Program

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA"	FION S	4EET (R	2-2 Exhil	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 020 1mp	PENUMBER AND TITLE 0207268F / 060/Improvement Pr	PE NUMBER AND TITLE 0207268F / 0604268F Aircraft Engine Component Improvement Program	- Aircraf m	t Engine	Compon		РКОЈЕСТ 1012
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1012 Aircraft Engine CIP	96,107	92,704	93,122	93,921	95,952	96,76	880'66		101,380 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: The FY96 funds shown above are for PE 0604268F. For FY97 and subsequent years the PE was changed to PE 0207268F.

(U) A. Mission Description and Budget Item Justification

CIP provides critical sustaining engineering support (only source) for in-service Air Force engines to maintain flight safety (highest priority), to correct service revealed throughout a system's service life, CIP must be maintained at a level to provide the engineering support to make the changes essential for continued satisfactory system types/maturity of engines, not by the total engine quantity. This program is in budget activity 7 - Operational System Development, Research Category 6.6 because all place. Without the outyear cost avoidance provided by CIP, outyear support funding would have to be increased drastically. CIP funding is driven by field events and the Air Force to obtain additional warranties when manufacturers incorporate CIP improvements into production engines. Since operational and safety problems arise decreasing to a minimum level (safety/depot repairs) sufficient to keep older inventory engines operational. CIP addresses out-of-warranty usage and life and enables Numerous new problems can develop in the engines through actual use during deployment, production, and service, and CIP provides the only funds to develop fixes efforts reduce outyear Operations and Maintenance (O&M) and spares costs by a ratio greater than 21 to 1. O&M and spares budgets assume a viable CIP effort is in performance at affordable costs. CIP ensures continued improvements in engine R&M factors, which reduce outyear support costs. Historically, R&M related CIP for these field problems. CIP starts with delivery of the first production engine purchased with procurement funds, and continues over the engine's life, gradually deficiencies, to improve system Operational Readiness (OR) and Reliability and Maintainability (R&M), to reduce engine Life Cycle Cost (LCC), and to sustain engines throughout their service life. Historically, aircraft systems change missions, tactics, and environments to meet changing threats throughout their lives. efforts support fielded systems.

(U) <u>FY 1996 (\$ in Thousands)</u>: (Under PE 0604268F) — (U) \$ 96.107 Continued officer at increase.

- sea level, 1300 altitude, 100 flight test), to analyze, verify and qualify CIP tasks. Program included 540 CIP tasks (209 redesign tasks, 278 repair scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program included approximately 8500 test hours (7100 Continued efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, development tasks, 53 analysis tasks) generating \$3.1 billion in potential LCC savings/cost avoidance. (U) \$ 96,107
 - (U) \$96,107 Total (PE 0604268F)

Project 1012

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Exhibit R-2 (PE 0207268F)

RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	10h
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207268F / 0604268F Aircraft Engine Component	PROJECT 1012
(U) FY 1997 (\$ in Thousands): Change in PE in report title reflects change – (U) \$92,704 Continue efforts to increase engine operability and sup- scheduled and unscheduled engine removals, maintena redesign tasks, 300 repair development tasks, 70 analys savings/cost avoidance. – (U) \$92,704 Total	housands): Change in PE in report title reflects change to Operational Systems Development Budget Category Continue efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program will include approximately 600 CIP tasks (230 redesign tasks, 300 repair development tasks, 70 analysis tasks) and approximately 7500 test hours generating \$2.6 Billion in potential LCC savings/cost avoidance. Total	1 capable rates, ately 600 CIP tasks (230 m in potential LCC
 (U) FY 1998 (\$\mathbb{E}\$ in Thousands): (U) \$\mathbb{S}\$ 93,122 Continue efforts to increase engine operability and supposed and unscheduled engine removals, maintenay redesign tasks, 278 repair development tasks, 68 analys \$2.2 Billion in potential LCC savings/cost avoidance. (U) \$93,122 Total 	housands): Continue efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program will include approximately 575 CIP tasks (229 redesign tasks, 278 repair development tasks, 68 analysis tasks) and approximately 7250 test hours (6620 sea level, 630 altitude), generating \$2.2 Billion in potential LCC savings/cost avoidance.	capable rates, ately 575 CIP tasks (229 ltitude), generating
 (U) FY 1999 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$\frac{\psi}{\psi}\$ 93,921 Continue efforts to increase engine operability and suppose scheduled and unscheduled engine removals, maintenar redesign tasks, 270 repair development tasks, 81 analys Billion in potential LCC savings/cost avoidance. (U) \$\frac{\psi}{\psi}\$93,921 Total 	nousands): Continue efforts to increase engine operability and supportability, reduce air aborts, aircraft safety incidents, non-mission capable rates, scheduled and unscheduled engine removals, maintenance man hours, and overall costs. Program will include approximately 590 CIP tasks (239 redesign tasks, 270 repair development tasks, 81 analysis tasks) and 7500 test hours to analyze, verify and qualify CIP tasks generating \$3.1 Billion in potential LCC savings/cost avoidance. Total	capable rates, ttely 590 CIP tasks (239 ks generating \$3.1
Project 1012	Page 2 of 5 Pages Exhibit R-2 (PE 0207268F)	0207268F)

RDT&E BUDGET ITEM JUS	TIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibi	₽	DATE Express, 1007	1007
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207268F / 060) ТП.Е / 0604268F	Aircraft Eng	PENUMBER AND TITLE 0207268F / O604268F Aircraft Engine Component	PROJECT 1012
(U) B. Program Change Summary (S in Thousands)		Improveme	mprovement Program			
	FY 1996	FY 1997	FY 1998	FY 1999	Total	
(U) Previous President's Budget FY97 PB	124,714	99,050	93,905	94,804	Continuing	
(U) Adjustments to Appropriated Value	133,230	96,850				
a. Congressional/General Reductions	-2.608	-1 937				
b. SBIR	-3.138	-2,119				
c. Omnibus or Other Above Threshold Reprogram	-30,936	î				
d. Below Threshold Reprogramming	+375					
e. Rescissions	-816	06-				
(U) Adjustments to Budget Years Since FY 1997 PB) 	?	-783	883		
(U) Current Budget Submit/FY98 PB	96,107	92,704	93,122	93921	Continuing	
(I) Change Summary Evnlanation:					ì	
(c) change cuminally Explanation.						

Funding: Congress added funds to CIP and directed re-enginning of Rivet Joint aircraft in FY96. The -\$30,936 in line (c.) above was reprogrammed for that purpose.

Schedule: No change.

Technical: No Change

(U) C. Other Program Funding Summary (\$ in Thousands) Not Applicable

(U) RELATED ACTIVITIES:

- (U) PEs # 0604268A and #0604268N, Army/Navy Aircraft Engine CIPs for prior years (U) PEs # 0207268A and #0207268N, Army/Navy Aircraft Engine CIPs for FY96 and following years
- (U) D. Schedule Profile: Not Applicable. CIP is a level of effort program that funds some 600 separate engineering tasks. Most are completed within two years.

Project 1012

Page 3 of 5 Pages

Exhibit R-2 (PE 0207268F)

RE	RDT&E PROGRAM EL	GRAM EI		EMENT/PROJECT	COSTE	REAKD	COST BREAKDOWN (R-3)	(£)	DATE	Fohrism, 1997	67
BUDGET ACTIVITY 7 - Operational System Developme	al System [Developme	ıt.		PE NUMBE 020726 Improv	PE NUMBER AND TITLE 0207268F / 0604268F Improvement Program	1268F Air	PE NUMBER AND TITLE 0207268F / 0604268F Aircraft Engine Component Improvement Program	e Compo		937 PROJECT 1012
(U) A. <u>Project Cost Breakdown (\$ in Thousand\$)</u>]: A project cost breakdown is not applicable to this Program, because there are no individual projects, but several hundred independently managed tasks. The bulk of the funding goes to the major engine manufacturers. The FY96 costs are broken down as follows. Cost breakdown for follow-on years is expected to be of similar proportions.	ost Breakdown ntly managed ta	(\$ in Thousansks. The bulk of similar proport	ds): A project of the funding prize	t cost breakdow goes to the majo	n is not appli r engine manı	cable to this F ufacturers. Tl	rogram, becan he FY96 costs	are broken do	o individual pr wn as follows	rojects, but se	veral lown for
				<u>FY96</u>		FY97	FY98	FY99			
	Contra	Contracted Tasks:		\$82,900		76,923	\$ 75,292	\$ 76,391			
	AFFT	AFFTC Flight Tests:		733		3,020	3,000	2,000			
	AEDC	AEDC Altitude Tests:	**	7,048		4,904	6,900	7,500			
	Petrol	Petroleum/Oil/Lubricants:	ants:	4,579		6,530	6,630	6,730			
	Missic	Mission Support:		847		1,300	1,300	1,300			
	PE TOTAL	TAL		96,107		92,704	93,122	93,921			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	quisition Histor	ry and Planni	ng Information	ı (\$ in Thousan	ds)						
Performing Organizations:	izations:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations GE-Evandale, OH CPAF	CPAF		¥X;	NA	NA	32,234	38,604	\$39,435	\$44,270	CONT	CONT
GE-Lynn, MA	CPFF	Jan 97 Jan 97	Y X	N A	A A A	43,873 2,500	32,537 2,551	30,071 2,601	26,398 2,568	CONT	CONT
Allison	CFF	Jan 97	NA V	N A	Y Y	1,469	1,300	1,350	1,400	CONT	CONT
Project 1012				Pa	Page 4 of 5 Pages	es		Exhit	Exhibit R-3 (PE 0207268F)	207268F)	

RE	RDT&E PROGRAM EL	3RAM EL	-EMENT/PROJECT	ROJEC	T COST B	REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	67
вирсет Астилт 7 - Operational System Development	ıal System D	evelopmer	4 2		PE NUMBER 020726 Improve	PE NUMBER AND TITLE 0207268F / 0604268F Improvement Program	268F Airc	raft Engir	PE NUMBER AND TITLE 0207268F / 0604268F Aircraft Engine Component Improvement Program		PROJECT 1012
Product Development Organizations (Continued)	nent Organization	s (Continued)									
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Teledyne Allied Signal Garrett	CPFF CPFF CPFF	Jan 97 Jan 97 Jan 97	NA NA NA	N N N A A	N N N N N N N N N N N N N N N N N N N	790 1,278 756	733 1,200 25	710 1,100 25	730 1,000 25	CONT CONT CONT	CONT
Support and Management Organizations In House Support POL	gement Organizat	tions			NA NA	847 4,579	1,300 6,530	1,300	1,300 6,730	CONT	CONT
Test and Evaluation Organizations AFFTC AEDC	n Organizations				NA NA	733 7,048	3,020 4,904	3,000	2,000	CONT	CONT
Government Furnished Property: None	iished Property:	None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	evelopment 1d Management !valuation					82,900 5,426 7,781	76,950 7,830 7,924	75,658 7,930 9,900	76,874 8,030 9,500	CONT CONT CONT	CONT
Total Project						96,107	92,704	93,122	\$93,921	CONT	CONT
Project 1012					Page 5 of 5 Pages	S		Exhi	Exhibit R.3 (PE_0207268F))207268F)	

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PE NUMBER: 0207320F

UNCLASSIFIED

PE TITLE: Sensor Fuzed Weapons

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE F.P.	February 1997	797
BUDGET ACTIVITY			10	City Clark	1 11			2	and a	
7 - Operational System Development	+		020	0207320F Sensor Fuzed Weapons	ensor Fu	ized Wea	pons		L V	РРОЈЕСТ 1016
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1016 SFW Pre-Planned Product Improvement (P3I)	9,517	18,695	19,804	3,622	0	0	0	0	0	53,067
Quantity of RDT&E Articles	0	4 (1,600)	4 (1,600) 3 (1,200)	0	0	0	0	0	0	7 (2,800)
Modes Commends the Fried 1 moved of										

Note: Currently, the FY98 and FY99 funds are in BA 5 but we are in the process of moving these funds to BA 7 -- will complete the transfer before the next submission.

(U) A. Mission Description and Budget Item Justification

The improvements will also enhance the performance of SFW when fitted with the Wind Corrected Munitions Dispenser (WCMD) kit and the anti-armor version of the This project continues development of the Sensor Fuzed Weapon (SFW) Pre-Planned Product Improvement (P31). The P31 improvements to the baseline SFW will enhance weapon performance against primary targets (land combat vehicles), targets with countermeasures, and potentially allow for use against alternative targets. loint Standoff Weapon (JSOW). This program is in budget activity 7 - Operational System Development, Research Category 6.6 because this activity funds improvements to the SFW, which is currently in production. This program is an Air Force ACAT 1C program.

FY 1996 (\$ in Thousands):

- Award P3I development contract for design, development, and test of SFW P3I (U) \$7,896
 - Conduct sensor and warhead tests (U) \$1,537
- Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$12
 - (U) \$72
 - Total (U) \$9,517

FY 1997 (\$ in Thousands): 3

- Continue the P3I development, qualification, integration of the dual mode sensor and multi-mission warhead (U) \$17,453
- Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$1,242 (U) \$18,695
 - **Total**

FY 1998 (\$ in Thousands): 5

- Continue the P3I development, qualification, integration of the dual mode sensor and multi-mission warhead. Conduct munition tests. (U) \$14,226
 - Conduct sensor and warhead tests (U) \$4,476
- Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$1,102 (U) \$19,804

Page 1 of 5 Pages

Exhibit R-2 (PE 0207320F)

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	E)	DATE February 1997
виреет Аститү 7 - Operational System Development		PE NUMBER AND TITLE 0207320F Sens	D TITLE Sensor Fuz	ЭППЕ Sensor Fuzed Weapons	PROJECT 1016
 (U) \$Y,1999 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$2,552 Complete the P3I development program with comprehensive test and evaluation; integrate P3I into the production program (U) \$686 Complete warhead, projectile and munition testing. Conduct flight tests (U) \$384 Program management support, includes travel, program office supplies and equipment, training and technical engineering support (U) \$3,622 Total 	ram with comprehe unition testing. Cc des travel, progran	ensive test and ev onduct flight tests n office supplies	aluation; integra	te P31 into the produraining and technica	ction program engineering support
(U) B. Program Change Summary (S in Thousands)					
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value (C) Cong Reductions 	FY 1996 0	FX 1997 0 19,100	FY 1998 0	FY 1999 0	
 b. SBIK c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 PB 	9.578 -61 9,517	-5	+19,804	+3,622 3,622	
(U) Change Summary Explanation:					
Funding: Congress added funds in FY97 to continue the	ne development of	the SFW P31. TI	ne Air Force fun	led FY98 and FY99	to continue the development of the SFW P31. The Air Force funded FY98 and FY99 to complete the program.
Schedule: In the FY97 PB, the SFW P3I program ended in FY96 because the untill completion in FY99. The production of SFW with P3I begins in FY99	ed in FY96 becaus th P31 begins in F	e that was the onl Y99.	y year of P31 fur	iding. The program	program ended in FY96 because that was the only year of P3I funding. The program is now fully funded and continues on of SFW with P3I begins in FY99.
Technical: Complete P3I development.					
Project 1016	Pa	Page 2 of 5 Pages		Exh	Exhibit R-2 (PE 0207320F)
		1306			

RDT&E BUDGET ITEN	M JUST	FICAT	NOI SH	TEM JUSTIFICATION SHEET (R-2 Exhibit)	2 Exhib	it)		DATE Feb	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207320F Sens	TLE ensor Fu:	D TITLE Sensor Fuzed Weapons	ons		<u> </u>	PROJECT 1016
(U) C. Other Program Funding Summary (S in The	n Thousands)							: :		
(U) SFW Production, Procurement of Ammo, AF(U) SEEK EAGLE, Procurement of Ammo, AF(U) Total(U) Quantity	FY 1996 160,811 4,636 165,447 500	EY 1997 152,000 0 152,000 542	FY 1998 153,861 0 153,861 556	FY 1999 143,343 0 143,343 352	FY 2000 171,343 0 171,343 516	FY 2001 168,777 0 168,777 504	FY 2002 170,150 0 170,150 502	FY 2003 236,617 0 236,617 752	To Compl 110,312 0 109,800 265	Total Cost 1,797,355 10,888 1,807,731 5,000
(U) D. Schedule Profile										
-	FY 1996 2 3	4	$\frac{FY}{2}$	FY 1997 2 3	4	FY 1998 2 3	4	1 2	FY 1999 2 3	4
(U) Contract Award(U) System Requirement Review (SRR)(U) System Design Meeting(U) Design and Development	× ×	× ×	×× ×	×	×	× ×	*	× ×		
	×	× :								
(U) Detailed Design/Development Tests (U) Critical Design Review (CDR)		×	× ×	×	×	×× ×	×	×		
(U) Hardware Build/Qualification Tests (U) P31 ECP						•	×	×	×	××
Project 1016			Page 3 of 5 Pages	Pages			Exhibit	Exhibit R-2 (PE 0207320F)	07320F)	
			100							

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RD	RDT&E PROGRAM EL		EMENT/F	EMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	Fahrijam, 1007	200
BUDGET ACTIVITY 7 - Operational System Developmer	al System D	evelopmen	1		PE NUMBER AN 0207320F	PE NUMBER AND TITLE 0207320F Senso	D TITLE Sensor Fuzed Weapons	Veapons		P P	PROJECT 1016
(U) A. Project Cost Breakdown (S in Thousands)	ist Breakdown (S in Thousand	(হ্								
				FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Major Contracts (U) Support Contracts (U) Program Office Support (U) Test and Evaluation	ts acts e Support ation			7,896 0 12 1,537		17,453 184 1,058 0	14,226 238 864 4,476	2,552 191 193 193 686	2		
(U) Government Furnished Equipment (GFE) (U) Total	urnished Equipri	nent (GFE)		72 9,517		0 18,695	0 19,804	0 3,622	0.2		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Plannin	g Information	(\$ in Thousan	ds)						
Performing Organizations:	izations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Textron Defense C/CPAF	nt Organizations C/CPAF	Apr 96	42,127	42,127	0	7,896	17,453	14,226	2,552	0	42,127
Support and Management Organizations VEDA C/CPAF Jul	ement Organizat C/CPAF	ions Jul 96	52	52	0	0	52	c	c	c	S
ANSTEC SAIC	C/CPFF C/CPAF	Aug 95 Jun 95	411	411	00	00	132	138	141	000	411
ASC/YH	N/A	Jan 98	3,556	3,556	1,429	12	1,058	864	30 193	0	3,556
Test and Evaluation Organizations 46 OG/OGML N/A	Organizations N/A	Jan 98	669'9	669'9	0	1,537	0	4,476	989	0	669'9
Project 1016				Pa	Page 4 of 5 Pages	ies		Exh	Exhibit R-3 (PE 0207320F)	0207320F)	
					1200						

RDT&E PROGRAM E	1 —	EMENT/PROJECT	r cost breakdown (R-3)	REAKDO	WN (R-3		DATE Fe	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	evelopmen	ıt	PE NUMBER AND TITLE 0207320F Sens	AND TITLE F Sensor	PE NUMBER AND TITLE 0207320F Sensor Fuzed Weapons	eapons		d 4	РВОЈЕСТ 1016
(U) B. Budget Acquisition History and Planni	ry and Plannin	ng Information Continued (\$ in Thousands)	s in Thousands)						
Government Furnished Property:	**								
Contract Method/Type Item or Funding Description Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property RHA Plates (ARMU Aberdeen)	96 unf	Dec 96	0	72	0	0	0	0	27
Support and Management Property None									
Test and Evaluation Property None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			0 1,429 0	7,968 12 1,537	17,453 1,242 0	14,226 1,102 4,476	2,552 384 686	000	42,199 4,169 6,699
Total Project			1,429	9,517	18,695	19,804	3,622	0	53,067
Project 1016		~	Page 5 of 5 Pages	٠		Д	Exhibit R-3 (PE 0207320E)	0207320E)	
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PE NUMBER: 0207323F

UNCLASSIFIED

PE TITLE: AGM-86C, Conventional ALCM

RDT&E BUDGET IT	EM JUS	STIFICA	TION SI	YEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207323F AGM	PE NUMBER AND TITLE 0207323F AGM-86C, Conventional ALCM	Conven	tional AL		4	РВОЈЕСТ 4608
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4608 CALCM	0	2,875	0	22,091	608'6	0	0	0	0	34,275
Quantity of RDT&E Articles	0	0	0	30(\$300K)	30(\$300K) 100(\$300K)	0	0	0	0	130

(U) A. Mission Description and Budget Item Justification

warhead, with long range (standoff outside theater defenses) capability. FY97 funds were added: a) to develop a CALCM related Hard Target Smart Fuze for use with production (modification of ALCM to Block II CALCM) for up to 130 CALCM Block II missiles is scheduled to begin in FY00 and finish in FY01. Also, in FY99 are The Conventional Air-Launched Cruise Missile (CALCM) Block II (AGM-86D) is a new variant of CALCM with a near precision (< 5m), hardened target penetrating combination of warheads is expected to give CALCM Block II a hard and deeply buried target capability similar to the GBU-28, but delivered from CALCM standoff ranges. With a successful FCT and/or study showing such a capability is prudent, the RDT&E funds in FY99 and FY00 will be used for the Block II EMD. Limited CALCM's penetrating warhead; b) to start development of the penetrating CALCM; c) to study the cost and operational effectiveness of CALCM with a forward shaped charge warhead in a hard and deeply buried target kill capability; d) and to study the effectiveness of CALCM as an agent defeat delivery vehicle. This funds to improve the accuracy of CALCM Block I (AGM-86C) using lessons learned from the Precision Strike demonstration.

(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$0 Total

FY 1997 (\$ in Thousands):

- Plan, design, and produce Hard Target Smart Fuze for CALCM Block II (U) **\$** 672
 - Plan, design, and produce CALCM Block II
- Conduct CALCM penetrating warhead sled test U) \$ 576
- Conduct CALCM related Hard and Deeply Buried Target Defeat System Analysis
 - Conduct CALCM related Agent Defeat Analysis
 - **Total** (U) \$ 862 (U) \$ 477 (U) \$2,875

FY 1998 (\$ in Thousands): Ð ,

- 0\$ (D) (D)
- Total

Project 4608

Page 1 of 5 Pages

Exhibit R-2 (PE 0207323F)

1401

RDT&E BUDGET ITEM JUSI	EM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-2 Exhib	it)	DATE Fahriiam 1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMI 02073	PE NUMBER AND TITLE 0207323F AGM-86C, Conventional ALCM	Conventional	ł
 (U) FY 1999 (\$ in Thousands): (U) \$10,000 Plan, design, and produce CALCM Block II with penetrating warhead and improved precision (U) \$12,091 Plan, design, and produce Block I with improved precision (U) \$22,091 Total 	ck II with penetrating war improved precision	head and improved pre	sision	
(U) B. Program Change Summary (\$ in Thousands)				
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value 2 Cont Reductions 	$ \frac{\text{FY 1996}}{0} \qquad \frac{\text{FY 1997}}{0} \\ 3,000 $	97 <u>FY 1998</u> 0 0	<u>FY 1999</u> 22,205	Total <u>Cost</u> TBD
b. SBIR c. Omnibus or Other Above Threshold Reprogram		62		TBD
 u. Decloy 1 ineshold Keprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 President's Budget 	2,875	75	22,091	TBD
 (U) Change Summary Explanation: Funding: FY97 additions added for: a) To develop a Hard Target Smart Fuze for use with CALCM's planned penetrating J-1000 warhead; b) to develop a penetrating warhead capability for CALCM; c) to study the cost and operational effectiveness of CALCM with a forward shaped charge warhead in a hard and deeply buried target kill capability; d) and to study the effectiveness of CALCM as an agent defeat delivery vehicle. FY99 additions are to plan, design, and produce the CALCM Block II; and to plan, design, and produce CALCM Block I INS with improved reliability. 	develop a Hard Target Smart Fuze for use with CALCM's planned p; c) to study the cost and operational effectiveness of CALCM with so study the effectiveness of CALCM as an agent defeat delivery vehidesign, and produce CALCM Block I INS with improved reliability.	se with CALCM's plann ectiveness of CALCM v nn agent defeat delivery IS with improved reliab	ed penetrating J-1 vith a forward shap vehicle. FY99 add	000 warhead; b) to develop a ed charge warhead in a hard and litions are to plan, design, and
Schedule: None.				
Technical: None.				
Project 4608	Page 2 of 5 Pages	ıges	EX	Exhibit R-2 (PE 0207323F)

RDT&E BUDGET ITEM	N JUST	FICATI	ON SH	ET (R-	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	Œ		DATE Fe	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NUM 0207	PE NUMBER AND TITLE 0207323F AGM	rle 3M-86C, (PE NUMBER AND TITLE 0207323F AGM-86C, Conventional ALCM	onal AL	W.	σ 4	РРОЈЕСТ 4608
(U) C. Other Program Funding Summary (\$ in Thousands)	ousands)								1	
	FV 1996	FV 1997	FV 1998	FV 1999	FV 2000	FY 2001	FY 2002	FY 2003	Tomp	Total
(U) Missile Procurement, buy AGM-86D	0 0 11 053	0 014 086	0	0	8,984	29,596	0	0	0	38,580
(U) Missile Procurement, mod ALCM to ACM-60C (U) Missile Procurement, upgrade AGM-86C with Precision Strike accuracy	14,032	14,960		15,527						15,527
(U) MILCON	0	0	19,500	0	0	0	0	0	0	19,500
(U) Quantity (AGM-86D)	0 9	0	0	0	30	100	0	0	0	130
(U) Quantity (ALCM to AUM-80C) (U) Quantity (AGM-86C Precision Strike upgrade)	0	0 0	0	300	0	0	0	0	0	300
(U) RDT&E CALCM Related Hard Tgt Smart Fuze (U) RDT&E Hard Tgt Smart Fuze (PE 28030F)		672		5,944					0 0	672 5,944
(U) Procurement Hard Tgt Smart Fuze (PE 28030F)				8,000	8,000				0	16,000
(U) D. Schedule Profile										
	FY 1996 2 3	4	1 2	FY 1997 2 3	4	FY 1998 2 3	∞ εν 4	_	FY 1999 2 3	4
(U) Penetrating Warhead Development (U) CALCM related Hard Target Smart				××						
fuze Development			>							
(U) CALCM penerating warnead sled test (U) CALCM related Hard & Deeply Buried			< 	ļ	-	×				,,,,
Target Analyses (11) CALCM related Agent Defeat Analyses			1	į	!	×				
(U) AGM-86C Precision Strike						i I		ļ	×	
Improvement Development										
(U) AGM-80D Development	pre pre							•	1 1 1 1 1 1	<u> </u>
Project 4608			Page 3 of 5 Pages	Pages			Exhibit	R-2 (PE	Exhibit R-2 (PE 0207323F)	
			1403							

1403

RD1	RDT&E PROGRAM E	BRAM EL	EMENT/P	LEMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKD(OWN (R-	3)	DATE Fe	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	System D	evelopmen			PE NUMBER AND TITLE 0207323F AGM	AND TITLE	36C, Conv	Conventional ALCM	LCM		РВОЈЕСТ 4608
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	t Breakdown (S in Thousand	(§								
				FY 1996		FY 1997	FY 1998	FY 1999			
(U) (U) Total						TBD 2,875		TBD 22,091			
(U) B. Budget Acquisition History and Planni	uisition Histor	y and Plannin	g Information	ng Information (\$ in Thousands)	S						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations	nt Organizations	5 1.1 07	CF3	677	c	c	(1)	c	c	rot	רפד
Ą,	FPAF	Nov 96	862	862	0	0	862	0	0	TBD	TBD
Support and Management Organizations	ment Organiza	tions	Č	``	¢	ć	:	•	•	į	í
OC-ALC	FMA Costs (Sled test)	/6 Inc	971	170	o (-	126	Э (0	OBI.	IBD
OC-ALC	PMA Costs (AGM-86D	Jul 97	788	288	9	0	288	0	22,091	TBD	TBD
SA-ALC NWIE	development) MIPR	TBD	477	477	0	0	477	0	0	TBD	TBD
Evaluation	Organizations	;		į	,	,					
ASC/WL 79TEG	NO NO NO	Jul 97 Jul 97	200	200 250	00	00	200 250	00	00	TBD TBD	TBD
Project 4608				Pay	Page 4 of 5 Pages	es		Exh	Exhibit R-3 (PE 0207323F)	0207323F)	·
					1404						

<u>8</u>	RDT&E PROGRAM EL	LEMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-3		DATE	February 1997	766
BUDGET ACTIVITY 7 - Operation	зирсет аститу 7 - Operational System Development	ant	PE NUMBER AND TITLE 0207323F AGM	AND TITLE F AGM-8	PENUMBER AND TITLE 0207323F AGM-86C, Conventional ALCM	entional A	1 1	P 4	PROJECT 4608
(U) B. <u>Budget £</u> Government Fur	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands) Government Furnished Property: Excess Air-Launched Cruise Missile (ALCM) bodies will t	ing Information Continued (\$ in Thousands) Launched Cruise Missile (ALCM) bodies will be required for warhead sled testing. Determined by available assets.	in Thousands) (A) bodies will b	e required fo	r warhead sle	d testing. De	termined by	available asse	ıts.
Item Description	Contract Method/Type Award or or Funding Obligation Vehicle Date	n Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Total Project			0	0	2,875	0	22,091	6,309	34,275
Project 4608		P	Page 5 of 5 Pages	S		Exh	Exhibit R-3 (PE 0207323F)	0207323F)	
			1405						

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PE NUMBER: 0207412F

UNCLASSIFIED

PE TITLE: Theater Air Control System

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HET (F	R-2 Exhi	bit)		DATE Fe l	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	ıt		PE NO	PE NUMBER AND TITLE 0207412F Thea	PE NUMBER AND TITLE 0207412F Theater Air Control System	ir Contro	l System		4	PROJECT 485L
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
485L. Theater Air Control Sys Imp (TACSI)	535	590	393	440	487	471	460	451	451 Continuing	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Ground Theater Air Control System (GTACS) provides the means through which the Air Component Commander exercises control of his forces to accomplish his Reissue 2 baseline, which works towards a Theater Missile Defense capability and the implementation of the Interim JTIDS Message Specification. This program is in replaces obsolete equipment (operator consoles, shelters, computers, radios, etc.) in the GTACS. The modernization upgrades C2 interoperability, flexibility, mobility, Interface Kits, all of which are required to integrate JTIDS/COMM into the MCE. The next planned phase includes a software interoperability upgrade to the TADIL-J unsupportable. The GTACS RDT&E program consists primarily of the Modular Control Equipment (MCE) Pre-Planned Product Improvements (P31) program which communications and worldwide operations. The P3I program is structured into multiple phases. Phase one consisted of the integration of secure anti-jam UHF radios, an upgrade to the weapons control and Joint Tactical Air Operations data link software (S/W), and development of a Chemical, Biological and Radiological protection budget activity 7 - Operational System Development because the Ground Theater Air Control System (GTACS) is a fielded, operational system currently undergoing interfaces. This program also includes production funding for JTIDS terminals, JTIDS Modules (JMs), JTIDS Interface Boxes (JIBs) and Operations Modules (OM) assigned mission. This program provides for major improvements to the existing Tactical Air Control System (TACS) which was designed in the 1960s and is now capability, integration of secure anti-jam VHF (SINCGARS) radios and upgrades to the Ground Mobile Forces/Satellite Communications digital communications Information Distribution System (JTIDS)/Tactical Digital Information Link-J (TADIL-J) capability, the integration of an Automated Air Tasking Order (AATO) capability. These improvements have already been incorporated into the MCE production line. The current R&D includes the integration of a Joint Tactical major modifications/upgrades.

Project 485L

Page 1 of 5 Pages

Exhibit R-2 (PE 0207412F)

1407

RE	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Exhibitions 4007
BUDGET ACTIVITY 7 - Operational Sy	вирсет аститу 7 - Operational System Development	PE NUMBER AND TITLE 0207412F Theater Air Control System	PROJECT 485L
(U) <u>FY 1996</u> - (U) 285 - (U) 250 - (U) 535	(\$ in Thousands) Continue development of interoperability upgrades to the MCE P3I system. Continue program support, test, and other miscellaneous efforts. Total	e MCE P3I system. efforts.	
(U) <u>FY 1997</u> - (U) 274 - (U) 316 - (U) 590	(\$ in Thousands) Continue development of interoperability upgrades to MCE P31 system. Continue program support, test, and other miscellaneous efforts. Total	CE P31 system. efforts.	
(U) <u>FY 1998</u> - (U) 135 - (U) 258 - (U) 393	(\$ in Thousands) Continue development of interoperability upgrades to MCE P3I systems. Continue program support, test, and other miscellaneous efforts. Total	CE P31 systems. efforts.	
(U) <u>FY 1999</u> - (U) 162 - (U) 278 - (U) 440	(\$ in Thousands) Continue development of interoperability upgrades to MCE P31 systems Continue program support, test, and other miscellaneous efforts Total	CE P31 systems efforts	
Project 485L	Page	Page 2 of 5 PagesExhibi	Exhibit R-2 (PE 0207412F)

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RDT&E BUDGET ITEM JUST	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE February 1997	, 1997
вирдет Астіvіту 7 - Operational System Development		PE NUMBER AND TITLE 0207412F Thea	Theater Air	PE NUMBER AND TITLE 0207412F Theater Air Control System	em	РРОЈЕСТ 485 L
B. Program Change Summary (S in Thousands)					Total	
(U) FY1997 President's Budget	FY 1996 242	$\frac{\text{FY } 1997}{622}$	FY 1998 723	$\frac{\text{FY } 1999}{802}$	Cost TBD	
(U) Appropriated Value	242	622				
a. General Congressional Reductions b. SBIR		-20				
c. Omnibus / Other Above Threshold Reprogramming d. Below Threshold Reprogramming	293					
 I. Rescissions (U) Adjustments to Budget since FY97 PB (U) FY1998 President's Budget 	535	290	-330 393	-362 440	TBD	
(U) Change Summary Explanation: Funding: FY97 -\$12 for Appr Act Sec 8136, -\$1	ct Sec 8136, -\$1 for Section 8136, -\$7 for Section 8037(E).	-\$7 for Section	8037(E).			
Schedule: None						
Technical: None						
Project 485L	Pag	Page 3 of 5 Pages		Û	Exhibit R-2 (PE 0207412F)	2F)

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RDT&E BUDGET ITE	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SH	LEET (R	-2 Exhil	oit)		DATE	Fohritan, 4007	0.7
BUDGET ACTIVITY 7 - Operational System Development		PE NU 020	PE NUMBER AND TITLE 0207412F Thea	TTLE heater Ai	D TITLE Theater Air Control System	System		P P	PROJECT 485L
(U) C. Other Program Funding Summary (\$ in Thousands)	housands)								
(I) Other Procurement AF Total	FY 1996 FY 1997	드	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total
Budget Activity 3, WSC 833040		4,174 22,950	20,030 21,491	20,108	19,988	20,988	21,104	Cont	TBD
Budget Activity 3, WSC 834010			0	0	0	0	00,02	0	3.020
Budget Activity 3, WSC 83790A Budget Activity 6 WSC 838010	0 0	0	0 00 0	0	0	0	0	0	2,730
Budget Activity 4, WSC 84590A	0		000,2 0	2,500	0 C	0 0	0 0	TBD	TBD
Budget Activity 6, WSC 86190A	10,512 5,791	91 5,304	3,139	2,317	0	463	454	Cont	TBD
(U) D. Schedule Profile									
-	<u>3661 X</u>	التا ،	FY 1997		FY 1998	100		FY 1999	
I (II) MCE P31 OM Interface Kit Rollow	2 3	1 2	m	4	7	3 4	1 2	33	4
on Production Award				×					
(U) MCE P3I OM Interface Kit Article			×		×				
U) MCE P31 Initial Operational				;					
Capability (IOC)				<		×			
(U) JIB Development Complete	×								
(U) JM Development Complete	×	×							
(U) Kadar KimæA					×	×	×	×	×
Project 485L		Page 4 of 5 Pages	Pages			П Ау Б	E-bibit D-2 (DE 0202412E)	07442E)	
						LAIIDI	N-2 (F.C. 02	0/4/21	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST	r BREAKI	DOWN (R-3		DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUN 0207	PE NUMBER AND TITLE 0207412F Thea	отпе Theater Air Control System	rol System		РРОЈЕСТ 485 L
(U) A. Project Cost Breakdown (S in Thousands)						
티	FY 1996	FY 1997	FY 1998	FY 1999		
(U) Developmental Test and Evaluation	285	274	135	162		
(U) Program Management Support	250	316	258	278		
(U) Total	535	290	393	440		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ousands)					
Not Applicable.						
D.C. 1. 40 C.	9 July 8 20 8	December		- i i i i i i i i i i i i i i i i i i i	Estitit D 3 (DE 0007449E)	ú
Project 463L	rage 2 of 3 rages	rages			N-3 (FE 020/4 (Z	

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PE NUMBER: 0207417F

UNCLASSIFIED

PE TITLE: Airborne Warning & Control System (AWACS)

RDT&E BUDGET	EM JUS	TIFICA	TION S	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE FeI	February 1997	160
вирвет Астилту 7 - Operational System Development	t t		PE N 020 (AV	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	пт <u>г</u> irborne \	Narning	& Contro	l System		РРОЈЕСТ 411L
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
411L Airborne Warning & Control System (AWACS)	88,843	78,635	46,807	29,266	26,652	37,464	23,118	41,915	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

countermeasures (ECCM), and enhance man-machine interface. Extend Sentry is a collection of 100+ projects that target investment in three areas. Extend Sentry prevents grounding of aircraft, buys back aircraft from maintenance downtime, and corrects deficiencies to meet operational requirements. OCA includes C4ISR improvements such as Link-16 data integration using improved display capabilities for AWACS Controller Consoles to expand AWACS - to - shooter interoperability. OCA also provides for and control of tactical forces and for strategic defense of the U.S. These improvements include Electronic Support Measures (ESM), Central Computer Memory Upgrade, Joint Tactical Information Distribution System (JTIDS) Class 2H/TADIL J and NAVSTAR Global Positioning System (GPS) terminal integrations (collectively known as This program develops and integrates system improvements which enable the E-3 AWACS to remain an effective, survivable airborne surveillance system for command Block 30/35); the Radar System Improvement Program (RSIP); Extend Sentry effort; and Offensive Counter Air (OCA) activities (which include Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Improvement efforts). RSIP will increase radar reliability and maintainability, restore required E-3 surveillance capability against the evolving threats posed by low radar cross section fighters and cruise missiles, improve electronic counter Tactical Information Broadcast System (TIBS) integration, and Cruise Missile Defense (CMD) technology efforts. Category of research: Operational Systems Development. AWACS is a fielded, operational system currently undergoing major modifications/block upgrades/continuing sustainment.

(U) Acquisition Strategy:

Systems with fixed price options. JTIDS and GPS acquired via respective program office-awarded contracts. RSIP is a cooperative development with NATO. Boeing is prime integrating contractor, Westinghouse is the subcontractor for radar equipment items. FFP contract sole source to Boeing for production. Extend Sentry acquisition Block 30/35: ESM is joint development with NATO. Priced FPIF options with Boeing for ESM and 30/35 Group A hardware. CC-2E contract with LORAL Federal strategy approved, contract vehicle awarded, and tasks continually being added.

Project 411L

Page 1 of 7 Pages

Exhibit R-2 (PE 0207417F)

RE	RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	997
BUDGET ACTIVITY 7 - Operational Si	вирбет Астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)		РRОЈЕСТ 411L
(U) FY 1996 (\$ in Thousands): - (U) \$ 4,619 Blk 30/35 - (U) \$31,085 RSIP activ - (U) \$25,005 Extend Se - (U) \$19,603 TS-3 airco - (U) \$ 8,531 Offensive - (U) \$88,843 Total	will complete l vities include th antry efforts. aft support, pro Counter Air (C	EMD including Electronic Library File (ELF) restructure. e completion of FCA/PCA and IOT&E. gram sustaining efforts.		
(U) FY 1997 (\$ in Thousands): - (U) \$ 300 Blk 30/35 I - (U) \$26,734 Extend Ser - (U) \$10,585 Offensive (IV) \$17,143 TS-3 aircre - (U) \$23,873 Re-Enginii - (U) \$78,635 Total	Thousands): BIR 30/35 EMD contract close out actions. Extend Sentry efforts. Offensive Counter Air (OCA) efforts. TS-3 aircraft support, program sustaining efforts. Re-Engining efforts			
(U) FY 1998 (\$ in Thousands): - (U) \$14,259 Extend Se - (U) \$20,220 Offensive - (U) \$12,328 TS-3 airca - (U) \$46,807 Total	Thousands): Extend Sentry efforts. Offensive Counter Air (OCA) Efforts TS-3 aircraft support, program sustaining efforts. Total			
(U) FY 1999 (\$ in Thousands): - (U) \$ 2,748 Extend Se - (U) \$12,500 Offensive - (U) \$14,018 TS-3 aircr - (U) \$29,266 Total	Thousands): Extend Sentry efforts. Offensive Counter Air (OCA) Efforts TS-3 aircraft support, program sustaining efforts. Total			
Project 411L	P	Page 2 of 7 Pages	Exhibit R-2 (PE 0207417F)	

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RDT&E BUDGET ITEM J	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHE	ET (R-2 E)	chibit)		DATE	February 1997	1997
вирбет Астиитү 7 - Operational System Development		PE NUMBER A 0207417F (AWACS)	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	ne Warni	ng & Cont	rol Syste	en uai y	PROJECT 411L
 (U) B. <u>Program Change Summary (\$ in Thousands)</u> (U) FY 1997 President's Budget (U) Appropriated Value 	FY 1996 96,696 96,696	EY 1997 57,559 82,559	Z <u>FY 1998</u> 9 29,782 9		FY 1999 25,225	Total Cost TBD) ist =1	
 (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR c. Omnibus & Other Above Threshold Reprogramming (U) Adjustments to Budget Since FY97 PB (U) FY 1998 President's Budget 		(1,929) (1,995) 78,635)) 17,025 5 46,807)25 107	4041	TBD		
(U) Change Summary Explanation: Funding: FY97 Appropriations Act included a \$25M add to begin an E-3 re-engining program. OSD has placed the re-engining plus-up monies on withhold. FY98 and out years reflect adjustments made to the Extend Sentry program and additional funds for CMD technology efforts Schedule: 31 Jul 96 APB update approved. RSIP IOT&E complete changed to objective/threshold of Nov 96/May 97 vs Dec 95/Jun 96. This change had no impacts to program other program milestones or funding requirements. Technical: None.	M add to begin an] nade to the Extend ! OT&E complete ch nding requirements.	E-3 re-enginin Sentry program langed to objec	g program. OSI and additional tive/threshold o) has placed funds for CN f Nov 96/Ma	the re-enginir AD technolog ty 97 vs Dec 9	ng plus-up m y efforts 95/Jun 96. 1	tonies on with This change ha	hold. ad no
(U) C. Other Program Funding Summary (\$ in Thousands)	FO 1007						1	
(U) Aircraft Procurement, AF,BA-5 AWACS Mod 222, (U) O&M, AF, AWACS Extend Sentry	FY 1996 222,764 265,865 600 7,100	134,659 FY 134,659 114 2,000 2	FY 1999 FY 2000 114,941 102,996 2,100 1,200	FY 2001 111,784 4,300	<u>FY 2002</u> 73,524 2,300	FY 2003 30,710 1,100	To Compl Cont Cont	<u>Total Cost</u> TBD TBD
Project 411L	I	Page 3 of 7 Pages	res		Exhi	bit R-2 (PE	Exhibit R-2 (PE 0207417F)	
		1416						

RDT&E PROGRAM ELEI	EMENT/PROJECT COST BREAKDOWN (R-3)	T COS	T BREA	KDOWN	(R-3)	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE N 02(PE NUMBER AND TITLE 0207417F Airbo (AWACS)	r∟E rborne W	arning &	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	stem	PROJECT 411L
(U) D. Schedule Profile	FY 1996 2 3 4	 \$	FY 1997 2 3	4 1	FY 1998 2 3	<u>8</u> 3 4	FY 1999 1 2 3	99 3 4
(U) RSIP IOI & E Complete (U) RSIP PCA (U) RSIP LRIP Decision (U) RSIP MSIII Decision (U) RSIP Trial Install (U) RSIP RAA IQTR00 (U) RSIP IOC IQTR00 (U) BLK 30/35 PCA Complete	*			×	.,	×		
BLK 30/35 Trial Install Con BLK 30/35 LRIP Kit Proof BLK 30/35 Support capabilit	< × ×	××	×		;			
(U) BLK 30/35 RAA (U) BLK 30/35 RAA (U) BLK 30/35 IOC (U) RSIP KIT DELIVERY (#1) (U) RSIP KIT DELIVERY (#2) (U) RSIP KIT DELIVERY (#3) (U) RSIP KIT DELIVERY (#4) (U) RSIP KIT DELIVERY (#4)				× ××	×	×	×	**
								;
Project 411L		Page 4 of 7 Pages	^r 7 Pages	;		Exhibit R-3 (Exhibit R-3 (PE 0207417F	(-
		1410						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT CO	ST BREAK	DOWN (R-3	DATE	February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE (A)	PE NUMBER AND TITLE 0207417F Airbo (AWACS)	LE borne Warnin	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	РКОЈЕСТ 411L
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Contracts (U) MITRE/TEMS	60,332 12,965 9 193	67,253 6,592 250	42,426 3,635	24,63 <i>7</i> 3,635	
(U) Travel	842	806	385	415	
(U) Other (U) Total	5,511 88,843	3,632 78,635	361 46,807	579 29.266	
Project 411L	Page 5	Page 5 of 7 Pages		Exhibit R-3 (PE 0207417F)	07417F)

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RDT&E	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	M ELEME	ENT/PRO	JECT C	OST BR	EAKDO	WN (R-3		DATE F	February 1997	997
вирсет Астіvіт 7 - Operational System Development	stem Develo	pment			PE NUMBER AND TITLE 0207417F Airbo (AWACS)	ND TITLE Airborn	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	g & Cont	rol Syste	Ę	PROJECT 411L
(U) B. Budget Acquisition History and Planni	ion History and F	lanning Info	ng Information (\$ in Thousands)	Thousands)							
Performing Organizations:	ns:										
Contractor or Government Performing	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations (U) Boeing(RSIP) C/FPIF (U) WECO(RSIP) C/FPIF (U) Boeing(Blk 30/35) SS/FPIF (U) Extend Sentry Multip (U) Offensive Counter Air Studies (U) Re-Engining N/A	ganizations C/FPIF C/FPIF SS/FPIF Multiple ir Studies N/A	9/89 9/89 5/87 N/A* N/A	88,500 327,400 N/A N/A N/A N/A	93,517 306,900 N/A N/A N/A N/A	85,327 244,588 287,067 0 19,967	8,190 14,657 4,600 15,734 9,401	0 300 26,734 10,585	12,943 6,804	2,382 2,534	0 0 0 cont	93,517** 259,155** 291,667** TBD
* N/A based on Extend Sentry Acquisition Strategy which includes multiple contracts with multiple organizations with overlapping and continuing performance periods.	sentry Acquisition ot include NATO	Strategy whis	gy which includes multiple cor and covers contract plus ECPs.	ultiple contrae lus ECPs.	cts with mult	iple organiza	tions with ove	erlapping an	d continuing	; performance	periods.
Support and Management Organizations (U) Support/TEMS MITRE/Other	t Organizations				529,090	19,318	11,132	4,381	4,629	Cont	TBD
Test and Evaluation Organizations (U) Test System-3 ADAPT Contract/ Other test Activities	nizations				22,990	10,810	10,883	11,363	11,855	Cont	TBD
Project 411L				Page	Page 6 of 7 Pages			Exh	ibit R-3 (PE	Exhibit R-3 (PE 0207417F)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BRE	AKDOV	VN (R-3)		DATE Febr	February 1997	7
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207417F Airborne Warning & Control System (AWACS)	o ⊤ir∟e Airborn €	• Warning	& Contro	ol System	PR(41	РРОЈЕСТ 411 L
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	(\$ in Thousands)						
Government Furnished Property: None							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	638,173 529,090 22,990	58,715 19,318 10,810	56,620 11,132 10,883	31,063 4,381 11,363	12,782 4,629 11,855	Cont Cont Cont	OBT OBT OBT
Total Project	1,190,253	88,843	78,635	46,807	29,266	Cont	TBD
Project 411L	Page 7 of 7 Pages			Exhib	Exhibit R-3 (PE 0207417F)	7417F)	

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PE NUMBER: 0207419F

UNCLASSIFIED

PE TITLE: Tactical Airborne Cmd & Control Sys

RDT&E BUDGET IT	EM JUS	TIFICA.	TION SE	HEET (R	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207419F Tacti	0207419F Tactical Airborne Cmd & Control Sys	irborne (Cmd & Co	ontrol Sy		РРОЈЕСТ 4133
	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4133 Abn Battlefield Cmd & Ctl Ctr Imp	1910	325	0	0	0	0	0	0	0	5,031
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: The RDT&E portion of this effort will be completed with FY97 funding. No funding is requested for FY98 and out.

Joint Force Air Component Commander or Joint Task Force Commander. During combat or contingency operations, ABCCC extends ground based C4I capabilities and can extension of the AOC, and airborne ASOC, or the Air Component Commander's operations center. ABCCC supports functions across a broad spectrum of operations; from Operational Systems Development, ABCCC is a fielded, operational system currently undergoing pre-planned product improvements (P31) which includes integration of the Joint Tactical Information Distribution System (JTIDS), integration of the Air Force Single Channel Ground and Airborne Radio System (SINCGARS), and upgrade of the Combat Air Forces. It receives target nominations from the Air Operations Center (AOC) or other C4I systems(Joint Surveillance Target Attack Radar System (JSTARS), (U) A. Mission Description and Budget Item Justification
The Airborne Battlefield Command and Control Center (ABCCC) provides rapid worldwide Command, Control, Communications and Computer (C4) capabilities to the function in a stand alone mode during the absence of ground based units. The primary mission of the ABCCC is to provide on-scene theater battle management for the Air Support Operations Center (ASOC), etc.) and directs attack from air, sea and/or land assets to targets in the theater of operations. It can also function as a direct Forward Battle Coordination and coordination of Joint Forces, to Close Air Support, Air Drops, Search and Rescue and Crisis Management. Category of research: Satellite Communications capabilities.

(U) FY 1996 (\$ in Thousands):

- Completed SINCGARS design. 995\$ (n)-
- Completed documentation and acceptance of SINCGARS First Article. - (U) \$1087 - (U) \$257 - (U) \$1,910
 - Conducted SINCGARS system verification, validation and test.
 - Total

(U) FY 1997 (\$ in Thousands):

- -(U) \$269 Conduct SATCOM study.
- Pre-Planned product improvements cost estimates.
 - Travel.

Project 4133

Page 1 of 4 Pages

Exhibit R-2 (PE 0207419F)

RDT&E BUDGET ITEM JUST	FICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	(t)	DATE Februa	February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207419F Tacti	דודור כ Tactical Air	borne Cmd	DE07419F Tactical Airborne Cmd & Control Sys	PROJECT 4133
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 Total						
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) \$0 Total						
(U) B. Program Change Summary (\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	Total	
(U) Adjustments to Appropriated Value a. General Congressional Reductions b. SBIR c. Ominibus and Other Above Threshold Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Chance Summany Evaluation	2093 2093 (96) (42) (42)	342 (9) (8) (8)	·			
(U) Change Summary Explanation: Funding:						
Schedule:N/A						
Technical:N/A						
Project 4133	Pag	Page 2 of 4 Pages		Ü	Exhibit R-2 (PE 0207419F)	19F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION S	HEET (R	-2 Exhi	oit)		DATE Feb	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	PE 1	PE NUMBER AND TITLE 0207419F Tacti	itte actical A	irborne (md & C	D™TLE Tactical Airborne Cmd & Control Sys		РВОЈЕСТ 4133
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY	FY 1997 FY 1998	FY 1999	<u>FY 2000</u>	FY 2001	FY 2002	FY 2003	To	Total
(U) Appropriation Aircraft Procurement, Air 7,110 Force, Budget Activity 5, C-130 Mods	47 50	516	54	54			0	13,008
Related RDT&E: None								
(U) D. Schedule Profile	ý	FV 1997		7.	FV 1998		FV 1999	
	3 4 1	2 3	4	1 2		1	2 3	4
SINCOAKS EMID Contract Award (May 95) PDR (Sept 95) CDR (Apr 96) X								
DT&E (Jun 96) Operational Capabilities Demonstration (Dec 96)	×	>						
First Article Delivery (April 97) Production (April-Sept 97) Initial Operational Capability (Mar 97)	×	< × ×	×					
Last Kit Delivery (Sept. 97)			×					
	E	4.7			ŗ	ייסטאלטסט דפי פי פיניניייידי	7440	
Project 4133	rage 3 c	rage 3 of 4 rages			EXUID	II K-Z (PE 02	0/4/8F)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	DOWN (R-3)		DATE February 1997	1997
вирвет Астіvity 7 - Operational System Development	PE NUMBER AND TITLE 0207419F Tactical Airborne Cmd &	E tical Airborne	Cmd & Co	Control Sys	РРОЈЕСТ 4133
(U) A. Project Cost Breakdown (S in Thousands)					
FY 1996	96 FY 1997	FY 1998	FY 1999		
Development 136 Systems Engineering 268 Technical Data 181 Test 307 Engineering/ Management Support 1001 Travel 11 Research Personnel 0 Miscellaneous 6	136 268 181 307 1001 0 269 6 50				
Total 1,910	10 325	0	0		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands): Not required.	nds): Not required.				
Project 4133	Page 4 of 4 Pages		Exhibit	Exhibit R-3 (PE 0207419F)	Ē)
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PE NUMBER: 0207423F

UNCLASSIFIED

PE TITLE: Advanced Communications Systems

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	766
зирсет астіліт 7 - Operational System Development	īt		PE NI 020	PE NUMBER AND TITLE 0207423F Adva	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	Commu	nications	System	S	
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	1,821	1,646	2,966	2,895	2,987	3,031	3,091	3,162	Continuing	TBD
1013 Theater Deployable Communications (TDC)	1,605	1,450	2,766	2,674	2,760	2,801	3,091	3,162	Continuing	TBD
2982 Anti-Jam Radio Communications	216	196	200	221	227	230	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Descriptions and Budget Item Justification

primary Air Force and DOD UHF Electronic Counter-Countermeasures (ECCM) voice communications. SINCGARS (Single Channel Ground and Airborne Radio System) The Advanced Communication Systems program procures commercially available ground communications equipment for deployment to theaters of operation and develops technologies; provide software development support for the fielded HAVE QUICK family of radios; and determine and resolve integration issues pertaining to commercialprovides funding for the research, development, test and evaluation for the modernization of operational deployable communications, and integration of COTS equipment aircraft and ground units involved in close air support and joint battlefield operations. RDT&E funds in this program element are used to examine appropriate emerging that support tactical air operations in a combat environment. This includes the integration of deployable communications equipment for active duty, Air National Guard provides anti-jam, VHF frequency-hopping voice and data communications and is the primary means of ECCM communications between Air Force, Army, and USMC off-the-shelf (COTS) equipment, making this program budget activity 7, Operational System Development. The Theater Deployable Communications (TDC) program and procures jam resistant ultra high frequency (UHF) and very high frequency (VHF) frequency-hopping tactical radios. The HAVE QUICK UHF radios provide the combat communications and Theater Air Control System units.

Quantity (IQ) plus a firm-fixed price contract for PACER SPEAK. All contracts within this Program Element were awarded after full open competition. (When restricted (U) Acquisition Strategy: There are three (3) contracts within this Program Element; two cost plus fixed fee (CPFF) contracts for Theater Deployable Communications (TDC) Lightweight Multiband Satellite Terminals (LMST) and The Integrated Communication Access Packages (ICAP) that are Indefinite Delivery (ID) /Indefinite technologies are involved, foreign competition is not allowed.) All are contracts are ID/IQ and cost plus fixed fee (CPFF) type, and when it is deemed appropriate by Contracting Officer and Program Manager, award fee contract or firm-fixed price contracts are used.

Page I of 14 Pages

Exhibit R-2 (PE 0207423F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibit	DATE Fohrmany 1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207423F Adva	Advanced Co	mmunications Syst
(U) B. Program Change Summary (\$ in Thousands)			
(U) 1997 PB President's Budget (97) 1,842 (U) Appropriated Value 1,934	96 FY 1997 12 1,822 14 1,822	FY 1998 3,146	3,084
Appropriated Value I Reductions ss Innovative Research Other AboveThreshold	(38) (137) (37) (39) (8.3)		
Activities of the Adjustment to Budget Years Since FY 1998 President (1.2)	2)	(180)	(681)
Budget (U) FY 1998 President's Budget (II) Change Summary Explanation:	1,646	2,966	2,895
Funding: FY 1998/9 reductions were in two categories: (1) One time Air Force Materiel Command (AFMC) reimbursement FY98/99 (149/155) respectively from MAJCOMs. and (2) corrective action personnel funding shortfall (FY98/99 \$13/13) respectively.	e Air Force Materiel C Y98/99 \$13/13) respec	ommand (AFMC) retively.	eimbursement FY98/99 (149/155) respectively from
Schedule: N/A			
Technical: N/A			

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Exhibit R-2 (PE 0207423F)

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SUL M	LIFICAT	TON SH	EET (R	-2 Exhit	ă		DATE Fet	February 1997	
BUDGI 7 - C	BUDGET ACTIVITY 7 - Operational System Development			PE NUI 0207	PE NUMBER AND TITLE 0207423F Adva	TLE dvanced	Commu	nications	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	S	
5 (£)	(U) C. Other Program Funding Summary (\$ in Thousands)	'housands)									
(U) O	(U) Other Procurement AF, Budget Activity 3, Wannon System Code \$37100 DE 0207472E	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 FY 2002 0	FY 2002	FY 2003	To Compl 0	Total Cost 51,182
Other	Capon System Code 827100, 1E 520/4221 Other Procurement AF, Budget Activity 3, Wesner System Code 827100 DE 0207423E	26,628	26,345	20,868	34,595	34,463	42,365	44,207	43,720	Cont.	TBD
(C) N	(U) Other Procurement AF, Budget Activity 3, Weanon System Code 827700 DF 0007423F	0	0	0	0	0	0			0	8,478
(U) A Wean	(U) Aircraft Procurement AF, Budget Activity 5, Wearon System Code OTHACE DE 0207423E	1,921	352	0	0	0	0			0	22,227
(U) Operation 0207422F	(U) Operations and Maintenance AF, PE	1,078	1,845	2,502	3,309	4,437	5,644			Cont.	
(U) Opera 0207423F	(U) Operational and Maintenance AF PE 0207423F										TBD
Other Other	 Other Advanced Communication Systems Programs PACER SPEAK Operates the Air Force Air Request Net (AFARN), which is the principal means of communications through which theater forces plan, request, coordinate, and control immediate close air support (CAS), reconnaissance, and airlift requests. The AFARN is operated by the Tactical Air Control Parties (TACPs). HAVE QUICK Frequency-hopping UHF radio that provides jam-resistant voice and data communications. SINCGARS Secure, jam-resistant VHF frequency-hopping voice and data communications system that can be configured in ground and airborne modes. Digital Communications Terminal (DCT) The DCT is used for message generation and transmission over the AFARN by land maneuver units. 	uest Net (AF ort (CAS), red nat provides j y-hopping ve	ARN), whic connaissanc jam-resistan oice and data	equest Net (AFARN), which is the principal means of communications through which theater for equest Net (CAS), reconnaissance, and airlift requests. The AFARN is operated by the Tactical Air Co that provides jam-resistant voice and data communications. arcy-hopping voice and data communications system that can be configured in ground and airbot DCT is used for message generation and transmission over the AFARN by land maneuver units.	cipal means requests. That commun titions system dransmissis	of communi ne AFARN i nications. 1 that can be on over the A	cations thro s operated b configured	ugh which t ny the Tactic in ground a land maneu	heater forces al Air Contra nd airborne 1	s plan, request ol Parties (TA modes.	

(U) D. Schedule Profile: See individual projects

Exhibit R-2 (PE 0207423F)

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RDT&E BUDGET IT		TIFICA	TION SI	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhi	bit)		DATE Fe	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developmen	nt		PE N 020	PE NUMBER AND TITLE 0207423F Adva	TITLE Advanced	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	nication	s System		РКОЈЕСТ 1013
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1013 Theater Deployable Communications (TDC)	1,605	1,450	2,766	2,674	2,760	2,801	3,091	3,162	Continuing	TBD
As clearly demonstrated during Desert Storm (DS/DS), today's generation of deployable communications equipment is bulky, inflexible in design and does not meet today's projected airlift availability or interoperability standards. Air Force planning calls for initial communications assets to be in place prior to the arrival of flying forces. Deployment priorities for DS/DS did not allow timely arrival of communications assets. Funds for this program are to complete joint interoperability certification testing, begin development and implementation of integrated network management software, and to support field activities and conduct integration activities. This program will research COTS equipment that will either augment existing assets or replace tactical communications packages. The resulting Theater Deployable Communications (TDC) packages will reduce airlift requirements and be designed to support a wide range of operational scenarios during deployment/employment, expansion and sustaining operations. Communications packages will be used by theater air control, combat communications, and special operations units as well as deployed air wings and mobility forces worldwide.	Istification Desert Storm lity or interopt for DS/DS di elopment and ch COTS equ ackages will r ining operatio and mobility t	(DS/DS), to erability star d not allow implementa iipment that educe airlift ns. Commu forces world	day's general dards. Air I timely arriva tion of integ will either a requirement incations pawide.	tion of deplo Force planni al of commun ;rated networ ugment exist ts and be des ckages will b	yable comm ng calls for i nications ass rk manageme ting assets or signed to sup oe used by th	resert Storm (DS/DS), today's generation of deployable communications equipment is bulky, inflexible in design to resert Storm (DS/DS), today's generation of deployable communications equipment is bulky, inflexible in place prior it or DS/DS did not allow timely arrival of communications assets. Funds for this program are to complete joint lopment and implementation of integrated network management software, and to support field activities and cost the COTS equipment that will either augment existing assets or replace tactical communications packages. The ckages will reduce airlift requirements and be designed to support a wide range of operational scenarios during into operations. Communications packages will be used by theater air control, combat communications, and stind mobility forces worldwide.	quipment is unications as or this progrand to supp ical commun range of opertrol, combat	bulky, inflex sets to be in am are to co ort field acti uications pac rational scer communica	cible in designate place prior that place prior that place point wities and cookages. The parios during thions, and specialions, and specialions	in and to the unduct resulting secial
 (U) FY 1996 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$421 Communications architecture planning. (U) \$534 Development of automation tools. (U) \$650 Support field interoperability and integration activities (U) \$1,605 Total 	itecture plann nation tools. rability and ir	ing. ntegration ac	tivities							
(U) FY 1997 (\$ in Thousands): -(U) \$356 Communications architecture planning. - (U) \$457 Development of automation tools. - (U) \$637 Field interoperablity and integration act. - (U) \$1,450 Total.	itecture planning. nation tools nd integration activities	ing. 1 activities							·	
Project 1013	1		Page 4 of 14 Pages	14 Pages			Exhibi	Exhibit R-2 (PE 0207423F)	207423F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	(R-2 Ex	hibit)	DATE February 1997	, 1997
вирсет Астииту 7 - Operational System Development	PE NUMBER AND TITLE 0207423F Adva	ND TITLE	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	tions Systems	PROJECT 1013
(U) FY 1998 (\$ in Thousands). - (U) \$475 Communications Architecture Planning - (U) \$570 Development of automation tools - (U) \$1,394 Continue Field Interoperability and Integration Activities - (U) \$327 Production Improvement and Interface Development - (U) \$2,766 Total	ijes				
(U) FY 1999 (\$\frac{\psi}{\psi} \text{ In Thousands}). - (U) \$375 Communications Architecture Planning - (U) \$615 Development of automation tools - (U) \$1,271 Continue Field Interoperability and Integration Activities - (U) \$413 Production Improvement and Interface Development - (U) \$2,674 Total	iies				
(U) B. Program Change Summary (\$ in Thousands)					·
(U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional Reductions b. Small Business Innovative Research	FY 1997 1,622 1,622 (133) (39)	FY 1998 3,146	$\frac{\text{FY } 1999}{3,084}$		
c. Omnibus and Other Above Threshold Reprogramming (U) Adjustment to Budget Years Since FY 97 President		(180)	(189)		
Budget (U) FY 1998 President's Budget 1,605	1,450	2,966	2,895		
			·		Ĺ
Project 1013	Page 5 of 14 Pages			Exhibit K-2 (PE 020/423F)	(1)
	1420				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	IFICAT	ION SH	IEET (R	-2 Exhit	oit)		DATE Fel	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207423F Adva	ITLE dvanced	Commu	nications	D TITLE Advanced Communications Systems		Р ROJECT 1013
(U) Change Summary Explanation:										
Funding: N/A										
Schedule: N/A										
Technical: N/A										
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
(U) Other Procurement AF, Budget Activity 3,	<u>FY 1996</u> 0	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0	FY 2002	FY 2003	To Compl 0	Total Cost 51,182
Weapon System Code 657 100, FE 020 422F (U) Other Procurement AF, Budget Activity 3, Weapon System Code 827100 DE 0207422F	15,972	15,638	17,243	24,080	25,952	27,368	28,362	29,316	Cont.	TDB
(U) Operations and Maintenance AF, PE	1,023	1,743	2,445	3,218	4,288	5,414	5,533	5,655	Cont.	TDB
Project 1013	ļ	,	Page 6 of 14 Pages	4 Pages			Exhib	Exhibit R-2 (PE 0207423F))207423F)	

RDT&E BUDGET ITEM	JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207423F Advanced Communications Systems	ions Systems 1013
(U) D. Schedule Profile	7 1996	FY 19	FY 1999
1 2 1013 Theater Deployable Comm (U) Acquisition Milestones	3 4	2 3 4 1 2 3 IVIII	4 1 2 3 4
(U) Contract Milestones (U) Production SATCOM Contract	×	(LMST)	
Award (Awarded AUG 95) (U) Production SATCOM Deliveries	×		
Start (U) Production Contract for Integrated Communication Access Packages (ICAP) Award (Awarded OCT 96) (U) Production of Integrated	×		
Communications Access Packages (ICAP) Deliveries Start (U) Integrated Net Mgt. Contract Award Communication Architecture		×	
Development of Automation Tool Development of Automation Tool Dest and Evaluation Milestones Complete SATCOM (OT) (TBD) Complete ICAP (OT)	×	×	
		:	
Project 1013	Pag	Page 7 of 14 Pages	Exhibit R-2 (PE 0207423F)

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R	RDT&E PROGRAM EL	GRAM EL	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	JWN (R-	3	DATE		
BUDGET ACTIVITY 7 - Operational System Developmen	nal System L				PE NUMBE 020742	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	sced Com	municatio	ins Syster	nan	PROJECT
(U) A. Project Cost Breakdown (\$ in Thousand	Sost Breakdown	(S in Thousand	(S)								
····				FY 1996		FY 1997	FY 1998	FY 1999	66		
(U) Software Support	port			534	4	457	905	, -	786		
(U) Engineering Support	Support			404	⊉ (356	400	. 4	294		
(U) Travel	cuvilles			580 55	o v	580 40	1,394	;'1	1,524		
(U) Miscellaneous (U) Total	S			32 1,605	\$ 2	17 1,450	15 2,766	2,6	2,674		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histo	ry and Plannin	g Information	ı (\$ in Thousa	(spu						
Performing Organizations: ESC/TG	mizations: ESC/	TG									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Organizations	ent Organization	হা		Theater Dep	Theater Deployable Communications	nunications					
Support and Management Organizations MITRE FFP OC TEMS FFP Va	gement Organiza FFP FFP	<u>utions</u> OCT 96 Varies	ESC/TGT	TDC	1713	1039	976	1849	1878	Cont	Cont
Test and Evaluation Organizations Air Force Test & TBD Evaluation Command	n Organizations TBD								2		
Project 1013				Pa	Page 8 of 14 Pages	ses		Exh	Exhibit R-3 (PE 0207423F)	0207423F)	
					007						

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BE	REAKDO	WN (R-	3)	DATE F	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207423F Adva	AND TITLE F Advan	ced Comr	DTITLE Advanced Communications Systems	ns Syster		РРОЈЕСТ 1013
Government Furnished Property: Not Applicable							
Contract Method/Type Award or Item or Funding Obligation Delivery <u>Description</u> Vehicle <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property N/A							
Support and Management Property N/A							
Test and Evaluation Property TBD							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	1713	1605	1450	2766	2674	Cont	Cont
Total Project	1713	1605	1450	2766	2674	Cont	Cont
Project 1013	Page 9 of 14 Pages	Se		Exh	Exhibit R-3 (PE 0207423F)	0207423F)	

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RE	RDT&E BUDGET IT	EM JUS	TIFICA	EM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	R-2 Exhi	bit		DATE	Fohrusm, 1007	796
BUDGET ACTIVITY 7 - Operational Sy	DGET ACTIVITY - Operational System Developmen			PE NI 020	PE NUMBER AND TITLE 0207423F Adva	TITLE Advanced	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	nications	s System	uaiy	2982
COST	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2982 Anti-Jam Radio Communications	nmunications	216	196	200	221	722	230	0	0	0	0
(U) A. Mission Descrii The fast paced devenigh frequency (UF The HAVE QUICK Air Force and DOE provides anti jam,w Force, Army, USM	(U) A. Mission Description and Budget Item Justification The fast paced development of new frequency hopping radio technologies by potentially hostile nations dictates that the U.S. maintains a technological lead. Ultra high frequency (UHF) frequency hopping voice radios are needed for jam resistant communications between tactical aircraft and airborne and ground control elements. The HAVE QUICK wave form used in these radios is the NATO standard for UHF anti-jam communications. The HAVE QUICK UHF radios provide the primary Air Force and DOD UHF Electronic Counter-Countermeasures (ECCM) voice communications. SINCGARS (Single Channel Ground and Airborne Radio System) provides anti jam, very high frequency (VHF) frequency hopping radios and data communications and is the primary means of ECCM communications between Air Force, Army, USMC aircraft and ground units involved in close air support and joint battlefield operations.	itification hopping rad e radios are tdios is the N countermeas requency ho involved in	io technolog needed for je VATO stands ures (ECCM pping radios	stification hopping radio technologies by potentially hostile nations dice radios are needed for jam resistant communications betwee adios is the NATO standard for UHF anti-jam communication Countermeasures (ECCM) voice communications. SINCGAI frequency hopping radios and data communications and is the involved in close air support and joint battlefield operations.	ially hostile communicat anti-jam co munications mmunication t battlefield	nations dict ions between mnunication . SINCGAR ns and is the operations.	ates that the In tactical aircis. The HAV. S. Single Chprimary mea	U.S. maintai raft and airt E QUICK U annel Grour ins of ECCN	ins a technol Jorne and gra JHF radios p nd and Airbo	ogical lead. ound contro rovide the p re Radio S ations betwe	Ultra elements. rimary ystem) en Air
(U) FY 1996 (\$ in Thousands): - (U) \$50 Continued - (U) \$106 Investigat - (U) \$60 Continue of (U) \$216 Total	<u>Thousands):</u> Continued software support for the HAVE QUICK II radios. Investigate improvements in anti-jam performance and other anti-jam techniques. Continue support of SINCGARS Phase II Qualification Testing and support platform integration analyses. Total	ort for the H in anti-jam CGARS Pha	AVE QUICK performance se II Qualific	X II radios. e and other a eation Testing	nti-jam tech g and suppo	niques. rt platform i	ntegration an	alyses.			
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$50 Continued - (U) \$96 Investigat - (U) \$50 Continue s - (U) \$196 Total	<u>Thousands):</u> Continued software support for the HAVE QUICK II radios. Investigate improvements in anti-jam performance and other anti-jam techniques. Continue support of SINCGARS Phase II Qualification Testing and support platform integration analyses. Total	ort for the H. in anti-jam XGARS Phas	A VE QUICK performance e II Qualific	I Tradios. and other a	nti-jam techi g and suppoi	niques. t platform ii	ntegration an	alyses.			
(U) FY 1998 (\$ in Thousands). - (U) \$100 Inves - (U) \$50 Conti - (U) \$50 - (U) \$50	sands): Investigate Improvements in Anti-Jam performance and other etc. Continue support of SINCGARS Phase II Qualification Testing SINCGARS data base upgrades Total	in Anti-Jam GARS Phas grades	ı performanc e II Qualific	e and other o							
Project 2982				Page 10 of 14 Pages	14 Pages	:		Exhibi	Exhibit R-2 (PE 0207423F)	207423F)	
				1434							

RDT&E BUDGET I	TEM JUS	TIFICATI	ON SHE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February	y 1997
BUDGET ACTIVITY 7 - Operational System Developmer	nt		PE NUMBER AN 0207423F	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	ations Systems	PROJECT 2982
(U) FY 1999 (\$ in Thousands). - (U) \$100 Investigate Improvements in Anti-Jam performance and other etc. - (U) \$50 Continue support of SINCGARS Phase II Qualification Testing - (U) \$71 SINCGARS data base upgrades - (U) \$221 Total	nts in Anti-Jam NCGARS Phass Ipgrades	performance s II Qualificat	and other etc.			
(U) B. Program Change Summary (\$ in Thousands)	(spue					
 (U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional Reductions b. Small Business 	FY 1996 221 221 (4)	FY 1997 209 200 (4)	FY 1998 209	FY 1999 233		
c.OMINIBUS and Other Above Threshold Reprogramming (U) Adjustment to Budget Years Since FY97 President Budget.	(1)	Ą	(6)	(12)		
(U) Change Summary Explanation: Funding: N/A	210	130	007	177		
Schedule: N/A						
Technical: N/A						
Project 2982		Pc	Page 11 of 14 Pages	ages	Exhibit R-2 (PE 0207423F)	<u>(F)</u>

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUST	IFICAL	TON SE	EET (R	-2 Exhit) (ic		DATE		
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020.	PE NUMBER AND TITLE 0207423F Adva	ritle dvanced	PENUMBER AND TITLE 0207423F Advanced Communications Systems	ications	Systems	uary 1	997 PROJECT 2982
(U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)									
(U) Other Procurement AF, Budget Activity 3, Weapon System Code 837100, PE 0207423F	FY 1996 8,211	FY 1997 8,437	FY 1998 3,659	FY 1999 3,878	FY 2000 4,067	FY 2001 11,040	FY 2002 11,293	FY 2003 11,447	To Compl 0	Total Cost TBA
(U) Aircraft Procurement AF Budget Activity 5, Weapon System Code OTHACF, PE 0207423F	1,921	512	0	0	0	0			0	23,230
(U) D. Schedule Profile										
(U) Software Support Efforts X (U) Platform Integration analyses (U) Contract Milestones (U) SINCGARS Production Option	EY 1996 2 3 X	4	-× 到 ² ×	FY 1997 X	4 L	FY 1998 2 3	4	- 円 ⁽²	FY 1999 2 3	4
Project 2982			Page 12 of 14 Pages	4 Pages			Exhibit	Exhibit R-2 (PE 0207423F)	7423F)	

RD.	RDT&E PROGRAM E	SRAM EL	EMENT/	LEMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	OWN (R.	3)	DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Developme	Il System D		ent		PE NUMBE 020742	PE NUMBER AND TITLE 0207423F Advan	Iced Com	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	ns Syste		PROJECT 2982
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown (S in Thousan	(Sp								
				FY 1996		FY 1997	FY 1998	FY 1999			
(U) a. Software Support(U) b. Engineering Support(U) c. Evaluation Analysis(U) c. Test and Evaluation	pport Support Analysis ıluation			% '4 '	2 2 2	46 28 77 20	49 28 73 25	50 30 78 25			
(U) d. Travel (U) e. R&D Centers Payments (U) f. Miscellaneous (U) Total	s Payments 1s			14 0 15 216	4055	13 0 12 196	14 0 11 200	20 20 0 18 18 221			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	uisition Histor	y and Plannin	g Information	(\$ in Thousand	<u>IS)</u>						
Performing Organizations: ESC/TG	izations: ESC/T	Ŋ									
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations N/A	nt Organizations										
Support and Management Organizations MITRE FFP OC TEMS FFP Va	ment Organizati FFP FFP	<u>ions</u> OCT 96 Varies	ESC/TGT	Adv Coms Sys	108.5	137 79	125 71	126 74	133	Cont	Cont
Test and Evaluation Organizations AFOTEC TBD	<u>Organizations</u> TBD										
Project 2982				Page	Page 13 of 14 Pages	səb		Exhi	Exhibit R-3 (PE 0207423F)	0207423F)	

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RDT&E PROGRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-		DATE	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	Jevelopmen	ı,	PE NUMBER AND TITLE 0207423F Adva	AND TITLE F Advan	ced Comn	PE NUMBER AND TITLE 0207423F Advanced Communications Systems	ns Systen		PROJECT 2982
Government furnished Property: Not Applicable	r: Not Applicable	50							
Contract Method/Type Item or Funding Description Vehicle	e Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property NA									
Support and Management Property N/A	~1								
Test and Evaluation Property TBD									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			108.5	216	196	200	221	Cont	Cont
Total Project			108.5	216	196	200	221	Cont	Cont
Project 2982		Pag	Page 14 of 14 Pages	Si		Exhi	Exhibit R-3 (PE 0207423F)	0207423F)	
								,	

PE NUMBER: 0207431F

UNCLASSIFIED

PE TITLE: Combat Air Intelligence System

超 **Total Cost 1004** February 1997 Continuing Cost to Complete FY 2003 Estimate 0207431F Combat Air Intelligence System FY 2002 Estimate 0 FY 2001 Estimate RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) FY 2000 Estimate PE NUMBER AND TITLE FY 1999 Estimate FY 1998 Estimate 7,385 FY 1997 Estimate FY 1996 Actual 7 - Operational System Development COST (\$ In Thousands) Quantity of RDT&E Articles BUDGET ACTIVITY 1004 Pegasus

(U) Note: The funding request for Project 1004 Pegasus for FY98 and later has been reprogrammed into PE 0207414F. Together with other funds from Pes 0604321F and 0305158, this was done to consolidate RDT&E funding in a single PE, for program clarity and reporting efficiency.

(U) A. Mission Description and Budget Item Justification

data to support Contingency Theater Automated Planning System (CTAPS). CIS builds and maintains in-theater situational awareness during deployment to the theater reconnaissance, and intelligence functions. CIS is electronically interpretable and compatible with other intelligence systems providing an integrated system capable of Combat Intelligence System (CIS) is the Air Force's single, standard automated intelligence system optimizing both component and unit-level intelligence functions to Battle Management Core Systems (TBMCS), it provides an automated capability at the component and unit levels to rapidly receive and process all-source intelligence of intelligence information to a variety of intelligence and operational systems which support combat planning and execution. As the intelligence segment to Theater provide warfighters with the most accurate and timely intelligence data available. CIS is the core capability for automating the receipt, correlation, and dissemination and provides indications and warning support after arrival. CIS provides the capability to receive all-source intelligence near-real-time from national, theater, tactical intelligence support to decision makers, battle planners, mission planners, and warfighter.

(U) Acquisition Strategy: Full and open competition has led to a cost plus award fee contract with Lockheed Martin Command and Control Systems to develop capabilities and integrate this system and software.

(U) FY 1997 (\$ in Thousands):

- (U) \$4,384 Continue software design of TBMCS version 1.0.
 - (U) \$1,724 Complete CIS version 1.2 development.
 - (U) \$1,277 Mission Support.
 - (U) \$7,385 Total

Page 1 of 4 Pages

Project 1004

Exhibit R-2 (PE 0207431F)

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PER NUMBER AND TITLE	8UDGET ACTIVITY 7 - Operational System Development (U) B. Program Change Summary (\$ in Thousands (U) FY97 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	FY 1996 0 0 0 0 0	EVUMBER AND TI 1207431F CC 7,749 7,749 -162 -202 7,385 7,385	ombat Air Intelligence Systems of	9R0JE01
FY 1996 FY 1997 alue 0 7,749 cesearch 0 -162 0 -202 wed these funds into PE 0207414F starting in FY98.	 (U) B. Program Change Summary (\$\frac{s}\$ in Thousands (U) FY97 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. Groul Bosing Transpired Pagesoch 	EY 1996 0 0 0 0 0 0 0 0 1to PE 0207414F starting in FY	E <u>Y 1997</u> 7,749 7,749 -162 -202 7,385	Total Cost TBD TBD	
FY 1996 FY 1997 7,749 0 7,749 0 7,749 0 7,749 0 7,749 0 7,749 0 7,749 0 7,749 0 7,385 0 7,385 0 7,385 0 0 0 0 0 0 0 0 0	 (U) FY97 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. Grand Bourders 	EY 1996 0 0 0 0 0 0 0 to PE 0207414F starting in FY	FY 1997 7,749 7,749 -162 -202 7,385	Total Cost TBD TBD	
162 (esearch 0162 0 -202 0 7,385 ved these funds into PE 0207414F starting in FY98.	(U) Adjustments to Appropriated Value a. Cong Reductions	0 0 0 o ito PE 0207414F starting in FY	-162 -202 7,385 798.	TBD	
(U) Change Summary Explanation: Funding: Air Force has moved these funds into PE 0207414F starting in FY98. Schedule: Not Applicable Technical: Not Applicable	D. Mail Dushless Innovative Acseaton (U) FY 1998/1999 Biennial Budget	ito PE 0207414F starting in FY	.98.		
	(U) Change Summary Explanation: Funding: Air Force has moved these funds in Schedule: Not Applicable Technical: Not Applicable				
			;		
Project 1004 Exhibit R-2 (PE	Project 1004	Page	2 of 4 Pages	Exhibit	Exhibit R-2 (PE 0207431F)

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFIC	ATION	SHEE	T (R-2	Exhit	oit)		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0207431F Com	A AND TITE	E nbat Ai	r Intelli	ombat Air Intelligence System	ystem		1004
(U) C. Other Program Funding Summary (S in Thousands)	(housands)								Ę	Total	
(U)RDT&E, PE 0604321F, Combat Intelligence	FY 96 3,619	FY 97 2,791	FY 98 0	FY 99 0	FY 00 0	FY 01 0	FY 02 0	FY 03 0	Cont	Cost TBD	
(U) Other Procurement, PE 0207431F, CAIS Other Procurement, PE 0207414F, Combat	3,597 9,114	4,293 9,705	5,487 15,252	4,886 13,173	6,666 18,730	5,189 14,631	4,813 12,077	4,829 12,125	Cont	TBD TBD	
(U) O&M, PE 0207431, CAIS (U) RDT&E, PE 0305158F, Const Source (U) Other Procurement, PE 0305158F,	10,826 1,989 968	3,479 1,954 1,951	3,330 0 0	3,353 0 0	4,326 0 0	5,371 0 0	5,488 0 0	5,615 0 0	Cont Cont	TBD TBD 2,919	
Collisiant Source											
Project 1004			Page	Page 3 of 4 Pages	ces.			Ē	ibit R-2	Exhibit R-2 (PE 0207431F)	(E)

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RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207431F Combat Air Intelligence System	1 1
(U) D. Schedule Profile		
(U) CIS 1.2 Release X X 4 (U) TBMCS V1.0 Preliminary Design X Review (PDR)		
Project 1004	Page 4 of 4 Pages	Exhibit R-2 (PE 0207431F)

PE NUMBER: 0207438F

UNCLASSIFIED

PE TITLE: Theater Battle Management (TBM) C41

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	k-2 Exhi	bit)		DATE Fe	February 1997	266
BUDGET ACTIVITY 7 - Operational System Developme	ınt		PE NI 020	PE NUMBER AND TITLE 0207438F Thea	пте heater B	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I	agemen	(TBM)	4	
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	27,403	32,766	24,013	35,341	24,972	13,141	13,896	14,356	Continuing	TBD
3330 Cmd Cntrl Info Process Sys (C2IPS)	5,531	5,469	4,764	22,102	12,333	2,376	2,374	2,477	Continuing	TBD
4287 Contingency Theater Automated Planning System (CTAPS)	18,425	23,970	12,886	9,222	8,765	6,847	11,522	11,879	Continuing	TBD
4288 Wing C2 System (WCCS)	3,447	3,327	6,363	4,017	3,874	3,918	0	0	0	31,778
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

The Theater Battle Management Core Systems (TBMCS) develops force-level and wing-level command, control, and intelligence systems which utilize DoD's Global Command and Control System (GCCS) Defense Information Infrastructure (DII) common operating environment (COE). Acquisition of these systems will allow the Projects included in this program are Command & Control Information Processing System (C2IPS), Contingency Theater Automated Planning System (CTAPS), and Wing Command & Control System (WCCS). Another project, Combat Intelligence System (CIS), is also part of the TBMCS, but RDT&E funds for CIS are programmed under PEs 0604321F, 0207431F, and 0305158F (FY97), and 0207414F (FY98+). The TBMCS program is in Budget Activity 7, Operational Systems execution of TBM planning, intelligence, and operational functions of the Joint Force Air Component Commander (JFACC), including the air tasking order (ATO). Development, and is a Post Milestone III effort.

(U) Acquisition Strategy:

Electronic Systems Center (ESC), Hanscom AFB, MA will manage the overall TBMCS program (CTAPS, WCCS, CIS, and C2IPS). Lockheed-Martin Command and individual applications consistent with the GCCS DII COE. C2IPS efforts will continue under the current prime contractor, Computer Sciences Corporation (CSC), through FY97. C2IPS migration into TBMCS will begin in FY98 using the TBMCS Integration & Development (I&D) contractor LMCCS. Control Systems (LMCCS) was competitively selected and is performing the TBMCS software integration and - when directed by the government - will develop

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Exhibit R-2 (PE 0207438F)

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RDT&E BUDGET ITEM .	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TION S	HEET (F	₹-2 Exhi	bit)		DATE	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE N	PE NUMBER AND TITLE 0207438F Thea	TITLE heater B	attle Man	agemen	D ТІТЕ Theater Battle Management (TBM) C4I	1001 fran	
(U) FY 1997 President's Budget (U) Appropriated Value	FY 1996 27,844 29,813	[<u>T</u> -	FY 1997 30,915 34,415	FY 1998 14,980	<u>FY 1999</u> 12,411		<u>Total Cost</u> TBD		
a. Congressional Reductions b. Small Business Innovative Research c. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB	-1,034 -634 -742 27,403		-827 -822 32,766	+9,033	+22,930	2 1	TBD		
 (U) Change Summary Explanation:	udes a Congressional "increase of \$5,000,000 [over FY96 PB request of \$24,813 thousand] only for the capability to lly disseminate Air Tasking Orders." Rescissions for Bosnia/Jordanian F-16s (\$718 thousand total) and [\$24 thousand). udes \$3,500,000 increase "to support a 1998 completion date of version 1.0 of the TBMCS." rogram and TBM fund realignment. Combat Integration Capability into TBMCS; incorporate the new ATO format into C2IPS and WCCS; begin migrating	crease of \$5, ing Orders." "to support alignment. ability into T	000,000 [ove Rescissions a 1998 comp BMCS; inco	er FY96 PB r for Bosnia/J. eletion date of rporate the n	equest of \$2 ordanian F-1 f version 1.0 ew ATO fon	4,813 thous 6s (\$718 th of the TBM mat into C2	and] only for . iousand total) a ACS." IPS and WCC	the capability ind and S; begin migratii	o 81
(U) Cther Program Funding Summary (\$ in Thousands) EY 1996 (U) Other Procurement, AF (0207438F) 58,025 (U) Operations and Maintenance, AF (0207415F) 7,679	1996 FY 1997 8,025 48,433 5,520 9,912 7,679 9,105	FY 1998 51,259 7,627 18,566	FY 1999 50,862 9,410 20,505	FY 2000 52,027 9,720 20,871	FY 2001 56,911 10,654 22,302	FY 2002 49,678 10,365 13,376	FY 2003 47,902 10,885 13,645	To To Comple Cont Cont	Total Cost TBD TBD
		Page 2 of 17 Pages	17 Pages			Exhibi	Exhibit R-2 (PE 0207438F)	77438F)	

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February Penumber and Title D207438F Theater Battle Management (TBM) C4	DATE February 1997 ement (TBM) C4I
(U) D. Schedule Profile 1	FY 1997 X X X X X	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Pag	Page 3 of 17 Pages	Exhibit R-2 (PE 0207438F)

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhi	E E		DATE	1000	67
BUDGET ACTIVITY				,				12.1	rebidary 1997	37
7 - Operational System Development			020	0207438F Thea	лт <u>г</u> е heater B a	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C41	agemen	(TBM) C		PROJECT
							,	•		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
3330 Cmd Cntrl Info Process Sys (C2IPS)	5,531	5,469	4,764	22,102	12,333	2,376	2,374	2,477	2,477 Continuing	TBD
					_	_	•		,	

(U) A. Mission Description and Budget Item Justification

The Command & Control Information Processing System (C2IPS) project develops communications and information processing hardware and software for all echelons execution worldwide. The integration of C2IPS computer resources and software with improved High Frequency (HF) equipment and other available communications of the Air Mobility Command (AMC). C2IPS provides AMC the capability to monitor in real-time the operational airlift and tanker functions associated with mission media will result in a unified AMC C2 System.

The C2IPS will be developed and installed in four increments. Increment 1 provided a digital data message handling capability at each Information Processing System (IPS) node and implements mission execution monitoring. Increment 2 builds on Increment 1 software to support mission planning and scheduling. Increment 3 will development, and lays the foundation for the migration strategy that will merge features of C2IPS into TBMCS. This project is in Budget Category 7, Operational provide C2IPS with a client server architecture as part of the system migration efforts. Increment 4 completes the directed C2IPS efforts for the incremental Systems Development and is a post-Milestone III effort.

(U) FY 1996 (\$ in Thousands)

- Complete Increment 2 software development. Starts Increment 3 software development. - (U) \$ 1,956
- Continue implementation of force- and unit-level migration strategies. - (U) \$3,189 - (U) \$ 386
 - Total

(U) FY 1997 (\$ in Thousands)

- Complete Increment 2.0D software development - (U) \$ 3,053
 - Complete Increment 3 software development - (C) \$
- Continue implementation of force- and unit-level migration strategies. Start Increment 4 software development. - (U) \$ 500 - (U) \$ 1,336 - (U) \$ 255
- Complete Operational Test & Evaluation (OT&E) force and unit level migration.

Project 3330

Page 4 of 17 Pages

Exhibit R-2 (PE 0207438F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit	(1)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207438F Thea	itle heater Batt	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I	nt (TBM) C4I	PROJECT 3330
(U) <u>FY 1998 (\$ in Thousands)</u> - (U) \$ 2,582 Increment 4 software development - (U) \$ 2,182 Continue implementation of force- and unit-level migration strategies - (U) \$4,764 Total	igration strategies				
(U) FY 1999 (\$\\$\) in Thousands) - (U) \$19,986 Theater Battle Management migration - (U) \$2,116 Continue implementation of force- and unit-level migration strategies - (U) \$22,102 Total	igration strategies				
(U) B. Program Change Summary (S in Thousands)				F-1-1-1	
(U) FY 1997 President's Budget 5,701 (U) Appropriated Value 5,701	FY 1997 5,779 5,779	FY 1998 0	FY 1999 0	Cost TBD	
(U) Adjustments to Appropriated Value a. Congressional Reductions b. Small Business Innovative Research	-172 -138				
Budget Years Since FY 1997 PB Biennial	5,469	+4,764 4,764	+22,102 22,102	TBD	
(U) Change Summary Explanation:					
Funding: FY96: Rescissions include a distributed amount of reductions for Bosnia/Jordanian F-16s. FY98 and 99 funds are realigned from project 4288.	for Bosnia/Jordaniar	ı F-16s.			
Schedule: N/A					
Technical: N/A					
Project 3330 Pax	Page 5 of 17 Pages		Exhi	Exhibit R-2 (PE 0207438F)	Œ
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### Management (TBN 2 1 2 3 4 1 1 2 3 4 1 3 4 4 4 4 4 4 4 4 4	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1007
ter Program Funding Summary (8 in Thousands) - Not Applicable. cedule Frofile FV 1996 FV 1997 4 1 EV 1998 FV 1999 mt 2.0C 1 2 3 4 1 2 3 cheadiness Review (TRR) X X X X X 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4 1 2 1 <th> E </th> <th>PE NUMBER AND TITLE 0207438F Theater Battle Managemen</th> <th>i i</th>	E	PE NUMBER AND TITLE 0207438F Theater Battle Managemen	i i
## 1	(U) C. Other Program Funding Summary (\$ in Thousands) - Not Applicable. (I) D. Schedule Profile		
Page 6 of 17 Pages	Test Readiness Review (TRR)	X X X X X X X X X X X X X X X X X X X	m
			t R-2 (PE 0207438F)

RDJ	T&E PROC	SRAM EL	EMENT/F	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	Fohriion, 1007	1007
BUDGET ACTIVITY 7 - Operational System Developme	l System De	evelopmen	nt		PE NUMBE 020743	PE NUMBER AND TITLE 0207438F Theat	er Battle A	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C41	ant (TBM)	C4I	937 PROJECT 3330
(U) A. Project Cost Breakdown (S in Thousan	it Breakdown (§ in Thousand	(sp	FY 1996	1	FY 1997	FY 1998	FY 1999			
 (U) Major Product Development Contracts (U) Support Contracts (U) Program Management Support (U) Total 	Major Product Development C Support Contracts Program Management Support Total	Contracts		3,024 1,861 646 5,53 1	 	3,614 1,394 461 5,469	2,582 1,754 428 4,764	19,986 1,582 534 22,102	1 9 2 4 2		
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	uisition History	gand Planning	Information	(S in Thousand	<u> </u>						
Performing Organizations: Contractor or Contractor or Methoc Performing or Func Activity	zations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations CSC C/FFIP/FP	nt Organization C/FFIP/FP	<u>s</u> Dec 88	n/a	n/a	4,106	3,024	3,614	2,582	986'61	Cont.	TBD
Support and Management Organizations MITRE SS/T&M Oct TEMS Various Var ESC n/a n/a n/a	ement Organizal SS/T&M Various n/a	tions Oct 94 Various n/a	n/a n/a n/a	n/a n/a n/a	1,471 230 824	1,431 430 646	1,148 246 461	1,508 246 428	1,336 246 534	Cont. Cont.	TBD TBD
Test and Evaluation Organizations - Not Applicable.	Organizations -	Not Applicabl	<u>. vi</u>								
Government Furnished Property: Not Applicabl	hed Property:	Not Applicable									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	velopment 1 Management 'aluation				4,106 2,525	3,024 2,507	3,614	2,582 2,182	19,986 2,116	Cont.	TBD
Total Project					6,631	5,531	5,469	4,764	22,102	Cont.	TBD
Project 3330				Page	Page 7 of 17 Pages	es		Exhi	Exhibit R-3 (PE 0207438F)	0207438F)	
					1440						

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	2-2 Exhi	bit)		DATE FA	February 1997	207
вирбет Астіvіт 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207438F Thea	TITLE heater B	attle Man	agemen	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C41	A I	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4287 Contingency Theater Automated Planning System (CTAPS)	18,425	23,970	12,886	9,222	8,765	6,847	11,522	11,879	11,879 Continuing	TBD

(U) A. Mission Description and Budget Item Justification

systems. The program utilizes an evolutionary acquisition strategy that accommodates changes in user requirements and improvements in commercial technology through a series of planned incremental software releases. On-going efforts are migrating the current system to Global Command and Control System (GCCS) Defense Information Infrastructure (DII) common operating environment (COE), ensuring compatibility, interoperability, and commonality among services The Contingency Theater Automated Planning System (CTAPS) program directly supports the Joint Forces Air Component Commander (JFACC) in the planning and execution of the theater air campaign down to the unit level. The system is designed to an open system standard, promoting interoperability among USAF, Services, and Allied command and control systems. The air tasking order generation and dissemination capabilities of CTAPS are the standard for all DoD command and control

(U) FY 1996 (\$ in Thousands) - (U) \$ 3,000 Complete - (U) \$ 5,425 Continue - (U) \$ 2,200 Continue - (U) \$ 2,200 Continue - (U) \$ 2,500 Initiate Ai - (U) \$ 5,000 Initiate Ai - (U) \$ 1,310 Systems e - (U) \$ 1,310 Systems e

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Project 4287

Exhibit R-2 (PE 0207438F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	۲-2 Exhibi	۵	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207438F Thea	ागा∟ Theater Bat	le Manage	e NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I	PROJECT 4287
 (U) FY 1997 (\$\frac{\psi}{\psi} \text{Thousands}\$ (U) \$\frac{\psi}{\psi} \text{17,120}\$ Complete version planning process, continue design/development of TBMCS version 1.0, and the full Ops/Intel interoperability. (U) \$\frac{\psi}{\psi} \text{3,500}\$ Complete ASOC software development. (U) \$\frac{\psi}{\psi} \text{3,500}\$ Continue Air Battle Planning and Architecture modifications to support the new Air Tasking Order (ATO) format. (U) \$\frac{\psi}{\psi} \text{1,000}\$ Initiate version planning and design for TBMCS Version 2. (U) \$\frac{\psi}{\psi} \text{1,050}\$ Systems engineering and support. (U) \$\frac{\psi}{\psi} \text{3,970}\$ Total 	evelopment of TBI ations to support t on 2.	MCS version 1.0 he new Air Task	and the full C	ps/Intel interoperability. O) format.	
 (U) FY 1998 (\$\frac{x}\$ in Thousands): (U) \$\frac{y}{5}\$ 9,593 Complete TBMCS software version 1.0 development and initiate TBMCS software version 2.0 development. (U) \$\frac{1}{2}\$ 1,293 System engineering and support. (U) \$\frac{1}{2}\$ 2,000 Integrate Combat Integration Capability (CIC) into TBMCS. (U) \$\frac{12}{3}\$86 Total 	nd initiate TBMCS MCS.	software versio	n 2.0 developr	nent.	
 (U) FY 1999 (\$ in Thousands): (U) \$ 6,862 Continue TBMCS software version 2.0 development and initiate TBMCS software version 3.0 planning and design. (U) \$ 1,360 System engineering and support. (U) \$ 1,000 Continue integration efforts of CIC into TBMCS. (U) \$9,222 Total 	nd initiate TBMCS	software versio	1 3.0 planning	and design.	
(U) B. Program Change Summary (\$ in Thousands) (U) FY 1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional Reductions	FY 1997 21,634 25,134 -563	FY 1998 11,231	<u>FY 1999</u> 8,500	<u>Total Cost</u> TBD	
b. Small Business Innovative Research c. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998/1999 Biennial Budget	-601 23,970	+1,655	+722	TBD	
Project 4287	Page 9 of 17 Pages			Exhibit R-2 (PE 0207438F)	E)
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RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C41	PROJECT 4287
(U) Change Summary Explanation:		
Funding: FY96: In addition to cuts taken to pay for Congressionally mandated reductions, Bosnia/Jordanian F-16s and Administrative/Personnel reductions. FY97: Appropriated Value includes \$3,500,000 increase "to support a 1998 com FY98: Funds added integrate Combat Integration Capability (CIC) into TBMCS. FY99: Funds added to continue to integrate CIC into TBMCS.	Funding: FY96: In addition to cuts taken to pay for Congressionally mandated reductions, rescissions include a distributed amount of reductions for Bosnia/Jordanian F-16s and Administrative/Personnel reductions. FY97: Appropriated Value includes \$3,500,000 increase "to support a 1998 completion date of version 1.0 of the TBMCS." FY98: Funds added integrate Combat Integration Capability (CIC) into TBMCS. FY99: Funds added to continue to integrate CIC into TBMCS.	
Schedule: Not Applicable.		
Technical: FY 98/99: Add Combat Integration Capability (CIC) within TBMCS.	TBMCS.	
(U) C. Other Program Funding Summary (\$ in Thousands) - Please see Program Summary above.	gram Summary above.	
(U) D. Schedule Profile - Please see Program Summary above.		
Project 4287	Page 10 of 17 Pages Exhibit R-2 (PE 0207438F)	(i
	1452	

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RD	RDT&E PROGRAM E	3RAM EL	EMENT/F	EMENT/PROJECT	COST	3REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	ai System D	evelopmer	14		PE NUMBI 02074;	PE NUMBER AND TITLE 0207438F Theat	ter Battle	0207438F Theater Battle Management (TBM) C4	int (TBM)		PROJECT 4287
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	(\$ in Thousan	(sp								
A				FY 1996		FY 1997	FY 1998	FY 1999	C.		
(U) System Integration a (U) System Engineering (U) TEMS	System Integration and Development System Engineering TEMS	pment		17,115 380 200 200		22,920 400 400 250	11,593 618 400	7,862 640 400	200		
(U) Total				18,425		23,970	12,886	9,222 9,222	·		
(U) B. Budget Acquisition History and Planni	quisition Histor	y and Plannin	g Information	ng Information (S in Thousands)	ds)						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations LMCCS C/CPAF/PR	ent Organizations C/CPAF/PR	Oct 95	n/a	n/a	1,169	10,640	21.620	11.593	7.862	Cont	TBD
SAIC (S/W INT) Hampton VA	C/CPFF/FCA	Mar 94	n/a	n/a	11,085	3,000	0	0	0	0	14,085
SAIC (ASOC/BSD)	C/CPFF/FCA	Feb 94	n/a	n/a	3,759	1,800	1,300	0	0	0	6,859
Hampton VA, Anchorage AK PARAMAX (APS) St Paul MN	C/CPFF/FCA	Mar 94	n/a	n/a	1,207	0	0	0	0	0	1,207
INEL (ASOC) Idaho Falls ID	C/CPFF/FCA	Oct 94	n/a	n/a	1,243	006	0	Ó	0	0	2,143
Miscellaneous	Various	Varions	n/a	n/a	410	775	0	0	0	Cont.	TBD
Project 4287				Pag	Page 11 of 17 Pages	ages		Exh	Exhibit R-3 (PE 0207438F)	0207438F)	
					1462						

RDT&	E PROG	RDT&E PROGRAM EL	EMENT/P	ROJECT	EMENT/PROJECT COST BREAKDOWN (R-3)	REAKDO	OWN (R-	3)	DATE	Fohrusm, 1007	700
BUDGET ACTIVITY 7 - Operational System Developmen	/stem De	velopmen	±		PE NUMBER 020743	PE NUMBER AND TITLE 0207438F Theate	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4	Tanageme	int (TBM)	_	PROJECT 4287
Contractor or Con Government Met Performing or F Activity Veh	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1996</u>	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	dget to	Total Program
Support and Management Organizations MITRE SS/T&M Oct TEMS C/T&M Var Miscellaneous Various Var	ment Organizati SS/T&M C/T&M Various	ions Oct 94 Various Various	n/a n/a n/a	n/a n/a n/a	5,237 1,430 2,137	380 200 730	400 400 250	618 400 275	640 400 320	Cont. Cont.	TBD TBD TBD
Test and Evaluation Organizations - Not Applicable Government Furnished Property: Not Applicable	anizations - Property:	Not Applicable Not Applicable	o <u>o</u>								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	pment nagement tion				18,873 8,804 0	17,115 1,310 0	22,920 1,050 0	11,593 1,293 0	7,862 1,365 0	Cont. Cont.	TBD TBD
Total Project					27,677	18,425	23,970	12,886	9,222	Cont.	TBD
Project 4287				Pag	Page 12 of 17 Pages	ડેલ્ડ		Exhi	Exhibit R-3 (PE 0207438F)	0207438F)	

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	ION S	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	ţ	i	PE NU 020	PE NUMBER AND TITLE 0207438F Thea!	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C41	attle Man	agemen	t (TBM) C		PROJECT 4288
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4288 Wing C2 System (WCCS)	3,447	3,327	6,363	4,017	3,874	3,918	0	0	0	31,778

(U) A. Mission Description and Budget Item Justification

commanders require an accurate, composite picture of their wing's total resources to effectively command, control, and manage their forces in support of their combat sortie commander in the mission execution and reporting process by exchanging critical command and control and intelligence information with functional counterparts located interoperability, and reduce training and maintenance costs. This is in Budget Activity 7, Operational Systems Development. This program is a post-Milestone III effort. WCCS program will design, develop, and install an automated, standard wing-level C2 system that will be tailored to meet unique organizational requirements, provide telephones, radios, and other communications devices, as well as by runners to update multi-user status displays (grease boards) or hand written logs. These techniques automated C2 system to bring meaningful, consolidated information to the Commander in near real-time. Today, this information is relayed over secure and unsecured programs have led to the proliferation of stovepipe systems which can not provide interoperability and do not adequately meet the needs of today's air operations. The have not changed substantially since World War II, and are cumbersome, error-prone, are subject to security compromise, and involve duplication of effort. Disparate generation and reporting responsibilities. Key functional areas (operations, maintenance, mission planning, intelligence, weather, etc.) use WCCS to support the wing throughout the wing. The introduction of increasingly sophisticated weapon systems - with their need for and ability to produce large amounts of data - require an This project includes development of mission critical application software for WCCS operating on commercially available hardware and system software. Wing

(U) <u>FY 1996 (\$ in Thousands)</u>: – (U) \$ 2,436 Initiate ver

- Initiate version planning process, design and development for TBMCS software version 1.0.
 - (U) Continue graphical user interface standardization.
- (U) Continue Decision Support System (DSS) Module.
 (U) Initiate Scheduler.
- (U) Continue first phase of security enhancement implementation.
- (U) Continue unit/force level integration.
- System engineering and support.
 - (U) \$3,447

Page 13 of 17 Pages

Project 4288

Exhibit R-2 (PE 0207438F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4	(TBM) C4I 4288	8
 (U) \$ 2,067 Continue design and development of TBMCS software version 1.0. (U) \$ 2,067 Continue design and development of TBMCS software version 1.0. (U) Complete scheduler. (U) Phase II Decision Support System (DDS) Module. (U) Continue first phase of security enhancement implementation. (U) Include/modify unit/force level interfaces (Air Force Mission i (AWDS), Base Recovery Control System (BRCS), and Comba (U) P31 efforts. (U) P31 efforts. (U) Continue force/unit level migration. (U) \$ 500 Initiate TBMCS software version 2.0 version planning and design. (U) \$ 3,327 Total 	isands): (U) Complete scheduler. (U) Phase II Decision Support System (DDS) Module. (U) Continue first phase of security enhancement implementation. (U) Include/modify unit/force level interfaces (Air Force Mission Support System (AFMSS), Automated Weather Distribution System (AWDS), Base Recovery Control System (BRCS), and Combat Ammunition System-Base (CAS-B). (U) P3I efforts. (U) Continue force/unit level migration. (U) Continue force/unit and support.	ather Distribution System	
 (U) <u>FY 1998 (\$ in Thousands)</u>: (U) \$2,614 Development work to incorporate new ATO format into WCCS. (U) \$2,759 Continue TBMCS software version 1.0 development and initiate (U) \$ 990 System engineering and support. (U) \$6,363 Total 	corporate new ATO format into WCCS. are version 1.0 development and initiate TBMCS software version 2.0 development. support.		
(U) FY 1999 (\$ in Thousands): - (U) \$3,067 Continue TBMCS software version 2.0 developm. - (U) \$1,950 System engineering and support. - (U) \$4,017 Total	are version 2.0 development; initiate planning and design for TBMCS software version 3.0. support.	3.0.	
Project 4288	Page 14 of 17 Pages Exhibit	Exhibit R-2 (PE 0207438F)	
	7371		

RDT&E BUDGET ITEM JUS	TIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE February 1997	ry 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207438F Thea	ΣΤΙΊ∟Ε Theater Ba	ttle Managem	DE NUMBER AND TITLE 0207438F Theater Battle Management (TBM) C4I	PROJECT 4288
(U) B. Program Change Summary (\$ in Thousands)					T. T. T.	:
(U) FY 1997 President's Budget (U) Appropriated Value	FY 1996 3,588 3,588	FY 1997 3,502 3,502	FY 1998 3,749	FY 1999 3,911	Cost TBD	
 (U) Adjustments to Appropriated value a. Congressional Reductions b. Small Business Innovative Research c. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998/1999 Biennial Budget 	-141	-92 -83 3,327	+2,614	+106	TBD	
(U) Change Summary Explanation:						
Funding: FY96: Rescissions include a distributed amount of reductions for Bosnia/Jordanian F-16s. FY98 and FY99: Funds added to integrate the new Air Tasking Order (ATO) into WCCS.	nt of reductions 1 new Air Tasking	for Bosnia/Jordan g Order (ATO) int	ian F-16s. to WCCS.			
Schedule: N/A						
Technical: FY 98 and 99: Add new format ATO capability.	ity.					
(U) C. Other Program Funding Summary (\$ in Thousands) -	Please see Progr	in Thousands) - Please see Program Summary above.	ove.			
(U) D. Schedule Profile - Please see Program Summary above.						
Project 4288	Page	Page 15 of 17 Pages		Ë	Exhibit R-2 (PE 0207438F)	8F)

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RD	RDT&E PROGRAM	Ш	EMENT/F	-EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE Fe	February 1997	266
BUDGET ACTIVITY 7 - Operational System Developme	al System D	evelopmer	nt		PE NUMBE 020743	PE NUMBER AND TITLE 0207438F Theat	er Battle N	ре NUMBER AND TITLE 0207438F Theater Battle Management (TBM) С4I	nt (TBM)		РРОЈЕСТ 4288
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	<u>(sp</u>	FY 1996		FY 1997	FY 1998	FY 1999	6.	!	
(U) System Integration a (U) System Engineering (U) TEMS (U) SPO Support (U) Total	System Integration and Development System Engineering TEMS SPO Support Total	lopment		2,436 344 220 447 3,447		2,567 400 200 160 3,327	5,373 470 280 240 6,363	3,067 440 280 230 4,017	50005		
(U) B. Budget Acquisition History and Planni	equisition Histor	y and Plannin	g Information	ng Information (\$ in Thousands)	(Spi						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations LMCCS C/CPAF/PR SAIC C/CPFFFCA	ent Organizations C/CPAF/PR C/CPFF/FCA	<u>s</u> Oct 95 Jan 94	n/a n/a	n/a n/a	5000	2,436	2,567	5,373	3,067	Cont.	TBD 5,000
Support and Management Organizations MITRE SS/T&M Oct Miscellaneous Various Var	ge <u>ment Organizat</u> SS/T&M Various	tions Oct 94 Various	n/a n/a	n/a n/a	750 904	344 642	425 335	470 520	440 510	Cont.	TBD
Test and Evaluation Organizations - Not Applicable	n Organizations -	- Not Applicabl	<u>.</u>								
Project 4288				Pay	Page 16 of 17 Pages	səğı		Exh	Exhibit R-3 (PE 0207438F)	0207438F)	
					1458						

RDT&	RDT&E PROGRAM EL		EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE Fe	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developme	ystem De	velopment	•	PE NUMBER AND TITLE 0207438F Thea	AND TITLE F Theate	e number And TITLE 0207438F Theater Battle Management (TBM) C4I	anageme	nt (TBM)		РRОЈЕСТ 4288
Government Furnished Property:	d Property:									
C Item on Description V	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property Local Purchase Various	Property Various	Various	Various	128	25	0	0	0	Cont.	TBD
Support and Management Property - Not Applicable	ent Property -	Not Applicable	D							
Test and Evaluation Property - Not Applicable	operty - Not A	pplicable								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lopment fanagement aation			5,178 1,654 0	2,461 986 0	2,592 735 0	5,373 990 0	3,067 950 0	Cont. Cont.	TBD TBD TBD
Total Project				6,832	3,447	3,327	6,363	4,017	Cont.	TBD
Project 4288			Pay	Page 17 of 17 Pages	sə.		Exh	Exhibit R-3 (PE 0207438F)	0207438F)	
				1460						

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PE NUMBER: 0207581F

PE TITLE: Joint STARS

UNCLASSIFIED

3,388,100 Total Cost PROJECT 0003 February 1997 Continuing Cost to Complete 37,742 FY 2003 Estimate DATE 46,933 FY 2002 Estimate 57,253 FY 2001 Estimate RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PE NUMBER AND TITLE 0207581F Joint STARS 77,269 FY 2000 Estimate 84,458 FY 1999 Estimate 119,189 FY 1998 Estimate FY 1997 Actual FY 1996 Actual 7 - Operational System Development COST (\$ In Thousands) Quantity of RDT&E Articles BUDGET ACTIVIT 0003 JSTARS

A. Mission Description and Budget Item Justification 3

Note: Joint STARS funds for FY98 and subsequent years have been transferred to PE 0207581F from PE 0604770F. Program funding for the years through FY97 is reported under PE 0604770F. Total cost shown above, also reported in the Dec 96 Selected Acquisition Report (SAR), is for FY82-03. RDT&E funds will still be required after FY03 for system upgrades and follow-on testing.

needs, the Air Force and Army initiated the Joint Surveillance Target Attack Radar System (Joint STARS) program with the Air Force as lead service. Joint STARS platforms, near-real time surveillance and targeting information on moving and stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas. This information would enable operational and tactical commanders to make and execute battle decisions. To meet these approved. In Nov 1996 two E-8Cs were deployed in support of Operation Joint Endeavor. This time the first production aircraft and the test aircraft were deployed. support of Operation Joint Endeavor in Bosnia. At a Defense Acquisition Board (DAB) Milestone III Review on 17 Sep 96, Full Rate Production of 19 aircraft was cued by other reconnaissance, surveillance, and target acquisition systems; able to respond rapidly to worldwide contingencies; and provide surveillance and attack will be capable of providing target information for pairing direct attack aircraft and standoff weapons against selected targets. The system will be capable of being information in all light and near-all-weather conditions. The operational utility of the system was effectively demonstrated by the outstanding performance of two This program is in Budget Activity 7 - Operational System Development, Research Category 6.6. There is an Air Force and Army need to provide, from airborne developmental aircraft in support of combat operations during Desert Storm. In Dec 1995 two developmental aircraft (one E-8A and one E-8C) were deployed in

(U) FY 1996 (\$ in Thousands): (Reported under PE 0604770F)

(U) FY 1997 (\$ in Thousands): (Reported under PE 0604770F)

FY 1998 (\$ in Thousands):

- Complete E-8C follow-on development and testing program 3,720 5
 - Continue Support Systems and Crew Trainer Development 669'91 5
 - Continue SDS, MSIP and E-8C FOTS 25,932 5
- Continue GFE, program support, test, and other miscellaneous efforts 15,738 5
 - Continue Life Cycle Cost Reduction Initiatives 57,100 99
 - **Total**

Project 0003

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Page 1 of 5 Pages

Exhibit R-2 (PE 0207581F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhibit)		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207581F Joint STARS	⊓⊓LE oint STARS		PROJECT 0003
 (U) FY 1999 (\$\frac{\psi}{\psi}\$ in Thousands): (U) 7,936 Continue Support Systems and Crew Trainer Development (U) 27,214 Continue SDS, MSIP and E-8C FOTS (U) 17,008 Continue GFE, program support, test, and other miscellaneous efforts (U) 32,300 Continue Life Cycle Cost Reduction Initiatives (U) 84,458 Total 	ment llaneous efforts			
(U) B. Program Change Summary (\$ in Thousands)				
(U) FY 1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. General Congressional Reductions b. Small Business Innovative Research	FY 1997	FY 1998 206,358	FY 1999 64,803	1 of a 1 Cost 3,402,000*
d. Below Threshold Reprogramming e. Rescissions f. NATO Alliance Ground Surveillance (AGS) Prog. (U) Adjustments to Budget Since FY 1997 PB (U) FY 1998 President's Budget (U) Change Summary Explanation * As reported in the Dec 95 SAR		(87,169)	19,655 84,458	3,388,100
Funding: FY98: Adjustment reflects decreases for FY96 and prior execution and realigned Air Force priorities, and increase to fund Life Cycle Cost Reduction Initiatives. FY99: Increase to fund Life Cycle Cost Reduction Initiatives.	ution and realigned /	Air Force prioriti	es, and increas	e to fund Life Cycle Cost Reduction
Schedule: The FY98 President's Budget contains funding for one E-8C in FY98 and two in FY99, a change from the March 96 report which showed procurement of two E-8Cs in FY98 and one in FY99.	in FY98 and two in l	FY99, a change f	from the March	96 report which showed procurement
Technical:				
Project 0003	Page 2 of 5 Pages		П	Exhibit R-2 (PE 0207581F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SHE	ET (R-2 Ex	thibit)		DATE Febr	February 1997	72
BUDGET ACTIVITY 7 - Operational System Development	PE NUMB 02075	PE NUMBER AND TITLE 0207581F Joint STARS	TARS			E 9	PROJECT 0003
(U) C. Other Program Funding Summary (S in Thousands)						<u> </u>	
(U) Aircraft Procurement (BP 10) 467,816 536,866 (U) Quantities 2 2	FY 1998 336,391	FY 1999 FY 2000 671,268 593,702	00 <u>FY 2001</u> 02 517,974 2 2	FY 2002 407,583 2	FY 2003 36,448 0	Compl	Total <u>Cost</u> 5,438,638
(U) Initial Spares (BP 16) (U) Initial Spares (BP 16) (U) Initial Spares (BP 16) (U) Initial Spares (BP 16) (E) Mote: Procurement began with 2 aircraft in FY93, 2 in FY94, and 2 in FY95. Total cost figures include procure NATO Alliance Ground Surveillance (AGS) funds are reported under PE A1001018F, NATO JSTARS.	35,139 795. Total cost fig ider PE A1001018	72,834 35,139 95,188 65,311 52,740 36,133 Total cost figures include procurement funds starting in FY92. PE A1001018F, NATO JSTARS.	11 52,740 curement funds 9 RS.	36,133 starting in FN	27,817 792.	14,665	72,854 494,951
(U) D. Schedule Profile 1	FY 1997 1 2 3 X X X	997 3 4 ×	FY 1998 1 2 3	8] E 4 X	- ×	FY 1999 3 X	4
(U) Organic Support Capability (U) IOC (U) Mature Reliability (U) Follow-On OT&E Start		×× <		×			×
* First production aircraft delivery to ACC							
Project 0003	Page 3 of 5 Pages	iges		Exhibit	Exhibit R-2 (PE 0207581F)	7581F)	

RD	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	SOST B	REAKD(OWN (R-	3)	DATE F	February 1997	97
BUDGET ACTIVITY 7 - Operational System Developmer	al System D	evelopmen	ıt		PE NUMBER AND TITLE 0207581F Joint	D207581F Joint STARS	STARS			0 	РВОЈЕСТ 0003
NOTE: Joint STARS RDT&E funds for FY98 and out have been transferred from PE 0604770F to PE 0207581F. Funds reported here are in PE 0207581F. Joint STARS RDT&E funds through FY97 are reported under PE 0604770F.	RS RDT&E fu	nds for FY98 a Y97 are report	ind out have b	een transferred 3604770F.	from PE 06	04770F to P	E 0207581F.	Funds report	ted here are	in PE 020758	1F. Joint
(U) A. Project Cost Breakdown (\$\subseteq\$ in Thousands)	st Breakdown ((\$ in Thousand	ত্ত	FY 1996		FY 1997	FY 1998	FY 1999			
(U) Product Development(U) Support and Management(U) Test and Evaluation(U) Total	opment lanagement ation						83,572 6,852 28,765 119,189	43,197 5,950 35,311 84,458			
(U) B. Budget Acquisition History and Plannin	quisition Histor	y and Plannin	g Information	g Information (\$ in Thousands)	ଜା						
Performing Organizations:	izations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations	int Organizations	⊘ i									
GMSD*	SS/CPIF	Nov 90	14,074	14,074				14,074			14,074
Other Misc	Various	Various	3,400	3,400						3,400	3,400
Fit Crew Sim Dual and Assoc.	SS/CPAF/FFP	May 94	4,635	4,635				3,699	936		4,635
MSIP BIk2 Upgr Interop Certif Cap GMSD	TBD SS/CPIF	Various Dec 96	132,099 20,000	132,099 20,000				52,613 13,000	35,035 7,000	44,451	132,099 20,000
* Grumman Melbourne Systems Division	urne Systems Di	vision									
Project 0003		i		Pag	Page 4 of 5 Pages	es		Exh	Exhibit R-3 (PE 0207581F)	0207581F)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EL	EMENT/F	ROJECT	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	267
BUDGET ACTIVITY 7 - Operational System Developme	Developmen	ıt		PE NUMBE 020758	PE NUMBER AND TITLE 0207581F Joint STARS	STARS	:			PROJECT 0003
Contract Government Method/Type Aw Performing or Funding Obl Activity Vehicle Dat Support and Management Organizations	e Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
MITRE F19628-85-C-0001	Ongoing						200			200
Other Spt & Mgt Test and Evaluation Organizations 3246 Test Wine PO	ral.						6,652	5,950	18,200	30,802
ပ	Aug 96	154,188	154,188				1,100	24,479	8,800	12,710
UMSD JTF Support Allotment Other Test Spt	Ongoing						7,530 70	7,942	34,422 280	49,894
Product Development Property JTIDS	Ongoing						186	226		412
Support and Management Property	K									
Test and Evaluation Property										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project							83,572 6,852 28,765 119,189	43,197 5,950 35,311 84,458	47,851 18,200 153,146 219,197	174,620 31,002 217,222 422,844
Project 0003			P_{ℓ}	Page 5 of 5 Pages	ss.		Exhi	Exhibit R-3 (PE 0207581F)	0207581F)	

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PE NUMBER: 0207590F

UNCLASSIFIED

PE TITLE: Seek Eagle

	RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	760
) - /	вирвет Астіviт 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0207590F Seek	PE NUMBER AND TITLE 0207590F Seek Eagle	a				
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	13,654	15,075	17,716	19,146	24,066	21,856	20,228	19,544	1	Continuing Continuing
2784	2784 Armament Standardization/Control/Munitions Material Handling Equipment	1,152	1,125	1,150	1,202	1,235	1,264	1,301	1,341		Continuing Continuing
4037	7 SEEK EAGLE Certification	12,502	13,950	16,566	17,944	22,831	20,592	18,927	18,203	Continuing	Continuing
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

EAGLE program is also responsible for insertion of new and emerging technologies into the SEEK EAGLE process and providing resources for sustainment of a viable in countless different loading combinations determined by operational scenarios, missions, and tactics. Loading configurations change as operational plans and tactics The Air Force has a variety of combat aircraft and numerous stores (munitions, missiles, fuel tanks, electronic countermeasures pods, etc.). Aircraft carry these stores change, and as new aircraft and stores are developed. Before operational use, the Air Force must certify these configurations for safe loading, carriage, and separation (jettison and normal release), and must verify ballistics accuracy under the user-certified carriage and employment parameters. The Air Force SEEK EAGLE program Air Force aircraft-store certification capability. Electronic Technical Orders (TO's) are developed through the Combat Weapons Delivery Software (CWDS). The combinations exist to be certified, with new ones added on a regular basis. Depending upon the complexity, certification takes from months to years. The SEEK Armament Standardization/Control/Munitions Material Handling Equipment (MMHE), Project 2784, satisfies several USAF and Tri-service requirements for standardization of armament and support equipment and eliminates unnecessary duplication of MMHE. The RDT&E Research Category/Budget Activity is completes these certifications through any combination of ground and flight testing, wind tunnel testing, and engineering analysis. Over 700 aircraft-store Operational Systems Development because the PE supports fielded systems.

Page 1 of 12 Pages

Exhibit R-2 (PE 0207590F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIC	N SHE	ET (R-	2 Exhib	E		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AN 0207590F	PE NUMBER AND TITLE 0207590F Seek	D TITLE Seek Eagle					
(U) B. Program Change Summary (S in Thousands)									
(U) Previous President's Budget (U) Appropriated Value	FY 1996 17,390 17,390	FY 1997 15,469 15,469		FY 1998 16,102	FY 1999 19,353		Total <u>Cost</u> Continuing		
a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprograming	-341 -27 -178	-370 -24	370 -24						
e. Recissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 PB	-107	15,075	75	1,614	-207 19,146		Continuing		-
 (U) Change Summary Explanation: Funding: FY96 reductions were for Congressional General Reductions, SBIR, reprogramming for F-16s for Jordan, and support for Bosnia operations. FY98 PB increases are required for certification of new weapons (JDAM, JSOW, WCMD, JASSM & AIM-9X). Schedule: N/A Technical: N/A 	al Reductions, DAM, JSOW,	SBIR, repr WCMD, 1A	ogramming ISSM & Al	; for F-16s fi IM-9X).	or Jordan, aı	nd support f	or Bosnia op	erations. FY99	8 PB
(U) C. Other Program Funding Summary (\$ in Thousands) Appropriation:								Ę	
(U) Missile Procurement 0 (U) Procurement of Ammunition, AF 5,874	FY 1997 8,024	FY 1998 1,112 1,112 4,112	FY 1999 10,618	FY 2000 8,206	FY 2001 8,538 1,880	FY 2002 10,515	FY 2003 8,674	Compl Cont.	Cont.
(U) D. Schedule Profile SEEK EAGLE program does not execute in accordance with established acquisition program milestones. Each aircraft-store configuration requested by the user goes through the SEEK EAGLE process by the designated user priority.	lished acquisit	ion progran	ı milestone	s. Each airc	raft-store co	nfiguration	requested by	the user goes	
	Pa	Page 2 of 12 Pages	Pages			Exhibi	Exhibit R-2 (PE 0207590F)	(07590F)	

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	१-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	ent		PE NI 020	PE NUMBER AND TITLE 0207590F Seek	D TITLE Seek Eagle	<u>e</u>			2	PROJECT 2784
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2784 Armament Standardization/Control/Munitions Material Handling Equipment	1,152	1,125	1,150	1,202	1,235	1,264	1,301	1,341	Continuing	Continuing
Quantity of RDT&E Articles										
(U) A. <u>Mission Description and Budget Item Justification</u> Armament Standardization/Control/Munitions Handling Equipment (MMHE): This continuing project develops and improves the standardization and commonality of improved munitions handling and armament equipment to preclude duplication and proliferation. This project's efforts are limited to the study, design and development of MMHE and armament control systems. Any Procurement will be performed and funded by the applicable weapons system project. (Funding for Project 2784 for FY96 and beyond is transferred to PE 27590F, SEEK EAGLE from PE 64602F, Armament/Ordnance Development.)	Justification ons Handling Ec at equipment to trol systems. As	nuipment (M preclude dup ny Procurem 90F, SEEK	MHE): This blication and tent will be p	s continuing proliferation erformed an n PE 64602F	project deve 1. This proje Id funded by 7, Armament	solops and imp set's efforts a the applicab	proves the st are limited to the weapons of	andardization the study, construction system projection	n and comm lesign and ct. (Funding	onality of for
 (U) FY 1996 (\$\frac{s}\$ in Thousands): (U) \$\$ 252 Initiate/continue/complete design/development of various MMHE projects, including completing design of the B-2 Bomb Rack Assembly Crossload Adapter, GBU Fin Rack, B-1 Nuclear Ram Assembly, and completing testing of the B-1B Preloading Adapter, F-22 Pylon Adapter, and T-Bar Adapter. (U) \$\$500 Continue design and manufacture of the Robotic Advanced Technology Demonstrator 	plete design/dev in Rack, B-1 Nu manufacture of i	elopment of ıclear Ram A ihe Robotic /	Fvarious MINAssembly, an	4HE projects id completin្ echnology Do	s, including c g testing of t emonstrator	completing d he B-1B Pre	esign of the Ioading Ada	B-2 Bomb F pter, F-22 P	tack Assemb ylon Adapteı	ly Cross-
 (U) \$ 150 Continue the design of MHU-110 Trailer Upgrades (U) \$ 250 Continue design/prototype B-1/B-52/B-2 Rotary Launcher Load Adapter and B-52H Pylon Load Adapter (U) \$ 1,152 Total 	of MHU-110 Tra otype B-1/B-52/	ailer Upgrad B-2 Rotary l	es Launcher Lo	ad Adapter a	and B-52H P	ylon Load A	dapter			
 (U) FY 1997 (\$ in Thousands): (U) \$ 450 Initiate/continue/complete design/development of various MMHE projects, including new development technology, Locally Manufactured (U) \$ 450 Initiate/continue/complete design/development of various MMHE projects, including new development technology, Locally Manufactured (U) \$ Nuclear Ram Assembly, and 40-Foot Trailer Rails. (U) \$ 150 Complete design/prototype MHU-110 Trailer upgrades (U) \$ 475 Complete construction and initiate evaluation of the Robotic Advanced Technology Demonstrator (ATD) (U) \$ 50 Complete testing of B-1/B-52/B-2 Rotary Launcher Load Adapter (U) \$ 1,125 Total 	plete design/development of various MMHE projects, including new development technology, Locally Manufactured (LLMME), and completing design of the Rocket and Computer Control Group (CCG) Modules, 40-Foot Trailer Trolleys, Launched Cruise Missile (ALCM) Pylon Adapter, and testing GBU Fin Rack, B-1 Nuclear Ram Assembly, and 40-Foot otype MHU-110 Trailer upgrades and initiate evaluation of the Robotic Advanced Technology Demonstrator (ATD)	elopment of completing c ie Missile (A) Trailer upg aluation of tl	f various MINdesign of the LCM) Pylor grades he Robotic A er Load Ada	HHE projects Rocket and 1 Adapter, an Advanced Ter pter	s, including r Computer C nd testing GE chnology De	iew developi Ontrol Group 3U Fin Rack, smonstrator (ment technology (CCG) Mc, B-1 Nucles (ATD)	logy, Locally odules, 40-Fr ar Ram Assel	y Manufactu oot Trailer T mbly, and 40	red rolleys, -Foot
Project 2784			Page 3 of 12 Pages	12 Pages			Exhib	Exhibit R-2 (PE 0207590F))207590F)	
			1160							

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RDT&E BUDGET ITEM JUS	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE February 1997	1997
вирсет Астилтү 7 - Operational System Development		PE NUMBER AND TITLE 0207590F Seek	DE NUMBER AND TITLE OZO7590F Seek Eagle			PROJECT 2784
 (U) FY 1998 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	relopment of vario k, B-1 Nuclear Ra chnology Demons 110 Trailer Upgra	ous MMHE proje im and ALCM Py strator ides	cts, including ner rlon adapter	w development	t technology, LMME and testir	ng of
 (U) FY 1999 (\$\frac{\\$}{5}\$ in Thousands): (U) \$\frac{\\$}{5}\$ 627 Initiate/continue/complete design/development of various MMHE projects, including new development technology and LMME (U) \$\frac{\\$}{5}\$ 150 Complete development of Rocket and CCG Modules, Flare Rack, and ALCM Pylon Adapter (U) \$\frac{\\$}{5}\$ 75 Complete development of B-1B nuclear Ram (U) \$\frac{\\$}{5}\$ 350 Initiate EMD Next Generation Bomb Lift Truck (U) \$\frac{\\$}{5}\$ 1,202 Total 	elopment of vario 1 CCG Modules, F 2ar Ram Lift Truck	us MMHE projed lare Rack, and A	cts, including ner LCM Pylon Ada	w development ipter	technology and LMME	
(U) B. Program Change Summary (\$ in Thousands)					Total	
(U) Previous President's Budget (U) Appropriated Value	FY 1996 1,175 1,175	FY 1997 1,181 1,181	FY 1998 1,154	FY 1999 1,208	Cont.	
a. Congressional General Reductions b. SBIR	-23	-32 -24				
 c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY98 PB 	1.152	1.125	4-	-6	, ton	
Project 2784	Pag	Page 4 of 12 Pages			Exhibit R-2 (PE 0207590F)	

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0207590F Seek Eagle	PROJECT 2784
 (U) B. <u>Program Change Summary (\$\sigma\$ in Thousands)</u> (Continued) (U) Change Summary Explanation: Funding: FY96 reductions were for general Congressional Reductions. FY97/FY99 changes were from inflation adjustments. Schedule: N/A Technical: N/A 	FY97/FY99 changes were from inflation adjustme	ents.
 (U) C. Other Program Funding Summary (\$\frac{s}\$ in Thousands) Related Activities: These is no other unnecessary duplication of effort within the Air Force or Department of Defense. (U) D. <u>Schedule Profile:</u> Not Applicable 	e Air Force or Department of Defense.	
Project 2784	Page 5 of 12 Pages	Exhibit R-2 (PE 0207590F)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	PROJECT C	OST BREAK	DOWN (R-		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207590F Seek Eagle	LE sk Eagle		PROJECT 2784
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Various MMHE Projects (U) Robotics ATD (U) MHU-110 Trailer Upgrade (U) Rotary Launcher/Pylon Loading Adanters	252 500 150 250	450 475 150 50	550 300 150	776	
(U) RAM Assembly (U) Rocket, Computer Control Group, and Flare Modules			150	75 150	
(U) Total	1,152	1,125	1,150	1,202	
Project 2784	Page	Page 6 of 12 Pages		Exhibit	Exhibit R-3 (PE 0207590F)

RC	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT		REAKD(COST BREAKDOWN (R-3)	3)	DATE F.	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developmer	al System D	evelopmen	ıt.		PE NUMBER AN 0207590F	PE NUMBER AND TITLE 0207590F Seek Eagle	Eagle				РРОЈЕСТ 2784
(U) B. Budget A	Budget Acquisition History and Plannin	ry and Plannin	g Information	g Information (\$ in Thousands)	(Sp					:	
Performing Organizations: Contractor or Contract Government Method Performing or Fund Activity Vehicle	inizations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Tota Program
Product Development Organizations	ent Organization	νı									
Dept of Energy/ NASA	T&M	Oct 96			0	200	475	300	350	Continuing	Continuin
Support and Management Organizations	gement Organiza	tione									
TEAS/TEAMS	CP	Oct 96	Continuing	Continuing	0	377	369	536	534	Continuing	Continuing
AFDTC/FM	8 G	Oct 96 Cont	Continuing	Continuing	0 0	130	130	130	130 20	Continuing	Continuing
WI/MN	් වී	Cont.	Continuing	Continuing	0	2 00	100	130	130		
Other	CP CP	Oct 96	Continuing	Continuing	0	12	18	14	18	Continuing	Continui
Test and Evaluation Organizations 46th Test Wing	n Organizations		Continuing	Continuing	0	20	20	20	20	Continuing	Continuin
Government Furnished Property: Not Applicabl	nished Property:	Not Applicabl	Ð								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development ind Management Evaluation				000	500 632 20	475 630 20	300 830 20	350 832 20		
Total Project					0	1,152	1,125	1,150	1,202	Cont	Cort
Project 2784				Pa	Page 7 of 12 Pages	ટ્રેલ્ડ		Ē	Exhibit R-3 (PE 0207590F)	: 0207590F)	

RDT&E BUDGET IT	EM JUS	TIFICA.	TEM JUSTIFICATION SHEET (R-2 Exhibit)	teet (R	-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NI 020	PE NUMBER AND TITLE 0207590F Seek	PE NUMBER AND TITLE 0207590F Seek Eagle	6			₫ 4	РРОЈЕСТ 4037
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4037 SEEK EAGLE Certification	12,502	13,950	16,566	17,944	22,831	20,592	18,927		18,203 Continuing Continuing	Continuing
Quantity of RDT&E Articles										

(U) A. Mission Description and Budget Item Justification

combination of ground and flight testing, wind tunnel testing, and engineering analysis. More than 700 aircraft-store configurations exist to be certified, with new ones added on a regular basis. Certification may take months to years to complete because of the diversity and interaction among systems being tested. The SEEK EAGLE Air Force aircraft carry a variety of combat stores (munitions, missiles, fuel tanks, electronic countermeasures, pods, etc.) in countless different loading combinations determined by operational scenarios, missions, and tactics. Loading configurations change based on operational plans and tactics, and as new aircraft and stores are developed. Before operational use, the Air Force must certify these configurations for safe loading, carriage, and separation (jettison and normal release), and must program is also responsible for insertion of new and emerging technologies into the SEEK EAGLE process and providing resources to sustain a viable Air Force aircraft/store certification capability. Electronic Technical Orders (TO's) are developed through the Combat Weapons Delivery Software (CWDS). verify ballistics accuracy under the user-specified carriage and employment parameters. The SEEK EAGLE program completes these certifications through any

(U) FY 1996 (\$ in Thousands):

- 185 Complete certification of F-16 C/D Block 50/52D and AGM-88 B/C (4 HARM)
- Initiate aircraft Ioad/separation modeling capability using Applied Computational Fluid Dynamics (ACFD) (U) \$ 1,140
 - Initiate/continue/complete various aircraft-store certification on fighter and bomber aircraft (U) \$ 10,677
- Initiate/continue/develop/complete various automated Technical Orders/mission planning tools using Combat Weapons Delivery Software (CWDS) (U) \$ 2,200
- Initiate certification of F-15 A/B/C/D/E, F-16 and AMRAAM P3I.
- (U) \$ 1,300 (U) \$ 15,502

Total

FY 1997 (\$ in Thousands): 9

- Initiate/design/develop F-22 models to use for follow-on certification 231
- Continue/complete aircraft load/separation prediction capability using Applied Computational Fluid Dynamics (ACFD) (U) \$ 1,682
 - Initiate/continue/complete aircraft-store certification on fighter and bomber aircraft (U) \$ 10,237
- Initiate/continue/develop/complete various automated Technical Orders/mission planning tools using CWDS (U) \$ 1,800 (U) \$ 13,950

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Exhibit R-2 (PE 0207590F)

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhit	oit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0207590F Seek	ND TITLE Seek Eagle			PROJЕСТ 4037
 (U) FY 1998 (\$\frac{\psi}\$ in Thousands): (U) \$\frac{\psi}\$ 1,244 initiate/continue/develop F-22 models to use for follow-on certification (U) \$\frac{\psi}\$ 1,789 Continue/complete aircraft load/separation prediction capability using Applied Computational Fluid Dynamics (ACFD) (U) \$\frac{\psi}\$ 1,641 Initiate/continue/develop/complete various automated Technical Orders/mission planning tools using CWDS (U) \$\frac{\psi}\$ 11,892 Initiate/continue/complete aircraft-store certification on fighter and bomber aircraft (U) \$\frac{\psi}\$ 16,566 Total 	ls to use for follov ration prediction or arious automated ore certification o	v-on certification capability using . Technical Orders n fighter and bon	Applied Computt /mission plannin iber aircraft	ttional Fluid Dy	namics (ACFD) WDS	
 (U) FY 1999 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	is to use for follow arious automated ration prediction ore certification on	v-on certification Technical Orders capability using A	/mission plannin tpplied Computa lber aircraft	g tools using C'	WDS namics (ACFD)	
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	<u>FY 1996</u> 16,215 16,215	FY 1997 14,288 14,288	FY 1998 14,948	FY 1999 18,145	Total <u>Cost</u> Continuing	
 a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions 	-317 -27 -178 -3,084 -107	-338				
(U) Adjustments to Budget Years Since FY 1997 PB(U) Current Budget Submit/FY98 PB	12,502	13,950	1,618 16,566	-201 17,944	Continuing	
Project 4037	Pag	Page 9 of 12 Pages			Exhibit R-2 (PE 0207590F)	
		1475				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATI	ON SH	EET (R-	2 Exhib	E €		DATE Fet	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUN 0207	PE NUMBER AND TITLE 0207590F Seek	отп∟е Seek Eagle				PROJECT 4037	ECT 7
 (U) B. Program Change Summary (\$\section\$ in Thousands) (continued) (U) Change Summary Explanation: (U) Change Summary Explanation: FY96 reductions were for Congressional General Reductions, SBIR, reprogramming for F-16s to Jordan, and support for Bosnia operations. FY98 increase is required for certification of new weapons (JDA, JSOW, WCMD, JASSM & AIM-9X). Schedule: N/A Technical: N/A 	iued) ieral Reductions DA, JSOW, WC	, SBIR, rep EMD, JASS	orogramming M & AIM-9	3 for F-16s to X).	o Jordan, an	d support fo	or Bosnia ope	erations. FY98	
(U) C. Other Program Funding Summary (S in Thousands) Appropriation:	EV 1007	EV 1000	1000	5V 2000	tooc Va	2000 VH	74 200 XF	To	Total
(U) Missile Procurement 0 Procurement of Ammunition 5,874	8,024	1,112	10,618	8,206	8,538 1,880	10,515	8,674	Continuing	TBD
(U) D. Schedule Profile The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. Each aircraft-store configuration requested by the user goes through SEEK EAGLE process by the designated user priority.	th established ac	equisition p	rogram mile	stones. Eac	h aircraft-st	ore configur	ation reques	ited by the user	soos
Project 4037	Pe	Page 10 of 12 Pages	2 Pages			Exhibi	Exhibit R-2 (PE 0207590F)	207590F)	ı
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RDT&E PROGRAM ELEMENT/P	-EMENT/PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE N 02(PE NUMBER AND TITLE 0207590F Seek	D ТІТLE Seek Eagle		PROJECT 4037
(U) A. Project Cost Breakdown (§ in Thousands)					
(U) Process Sustainment	FY 1996 1,100	FY 1997 1,657	<u>FY 1998</u> 2,065	FY 1999 2,562	
 (U) Engineering Analysis (U) Flight Testing (U) Wind Tunnel Testing (U) Other - Ballistic/ Safe Escape Analysis - Tech Order/P.C. Floppy Disk - Loading Process Development/Verification 	2,010 4,435 1,642 2,242	2,650 4,562 1,660 1,800	2,900 5,935 2,497 1,641	3,100 6,596 2,430 1,647	
(U) Total (U) Total	1,073	1,621	1,528	17,944	
Project 4037	Page 11 of 12 Pages	12 Pages		Exhibit	Exhibit R-3 (PE 0207590F)

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RDT&E P	RDT&E PROGRAM EL		EMENT/PROJECT	COST B	REAKD(COST BREAKDOWN (R-3)	3)	DATE F.	February 1997	197
BUDGET ACTIVITY 7 - Operational System Developmen	em Developmer	ıt	:	PE NUMBER AN 0207590F	PE NUMBER AND TITLE 0207590F Seek Eagle	Eagle			ч 4	РВОЈЕСТ 4037
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	History and Plannin	ig Information	(\$ in Thousan	(spi						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	t /Type Award or ing Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations N/A	izations N/A									
Support and Management Organizations Mission Support PO/REO Co	ganizations Continuous		Continuous	6,094	1,073	1,621	1,528	1,609	Continuing	Cont
Test and Evaluation Organizations 46th Test Wing PO/REO	ations Continuous Continuous Continuous		Continuous Continuous Continuous	61,098 8,941 26,643	4,985 1,692 4,752	5,130 2,219 4,980	5,478 3,006 6,554	6,409 3,006 6,920	Continuing Continuing Continuing	Cont
Government Furnished Property: Not Applicable	perty: Not Applical	ble								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	nt ement			N/A 6,094 96,682 102,776	1,073 11,429 12,502	1,621 12,329 13,950	1,528 15,038 16,566	1,609 16,335 17,944	Continuing Continuing Continuing	Cont Cont
Project 4037			$Pa_{\mathcal{S}}$	Page 12 of 12 Pages	ıges		Ext	Exhibit R-3 (PE 0207590F)	0207590F)	

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PE NUMBER: 0208006F

UNCLASSIFIED

PE TITLE: Mission Planning Systems

RDT&E BUDGET ITI	TEM JUSTIFICATION SHEET (R-2 EXHIBIT)	TIFICA	TION SH	IEET (R.	-2 EXHII	BIT)		DATE Fe	February 1997	266
вирдет Астіvіту 7 - Operational System Development	 		PE NI 020	PE NUMBER AND TITLE 0208006F MISSI	TITLE lission P	PE NUMBER AND TITLE 0208006F Mission Planning Systems	Systems			PROJECT Project
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Air Force Mission Support System (AFMSS)	19,067	17,635	16,526	17,434	17,487		17,755 18,052	18,433	Continuing	180
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

- planning system. This program maintains and preserves combat capability on old existing "legacy" planning systems which will migrate into a USAF wide standard mission Commercial-Off-The-Shelf (COTS) hardware. AFMSS encompasses evolutionary software and hardware development in an open systems architecture with planned annual MH-47, MH-53, MH-60, C/AC/EC/MC-130 and Tier II+/Tier III- Unmanned Aerial Vehicles (UAVs). AFMSS is currently being used operationally by six USAF aircraft EF-111, F-117, JSTARS, AWACS, ABCCC, U-2, AGM-130/GBU-15, JSSAM, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, software releases. AFMSS is the single unit-level mission planning system supporting all current/future aircraft and associated weapons: A/OA-10, F-15, F-16, F-22, planning system known as the Air Force Mission Support System (AFMSS). AFMSS acquisition strategy leverages military and commercial software integrated on The Mission Planning System program was established in 1990 to consolidate mission planning system development efforts into a single unit-level mission and will be fielded to other aircraft as their software becomes available. It is also in daily use by the US Special Operations Command (USSOCOM).
- Mission Planning Systems is budget activity 7, Operational System Development, because the program currently supports deployed AFMSS systems, which include USAF requirements into one common software baseline is currently in final development for release in the 3rd quarter of FY97. The AFMSS C2.0/2.1 MPS hardware suite, Block C2.0 software release is completing developmental testing in preparation for OT&E in the 2nd quarter of FY97. AFMSS Block C2.1, which merges USSOCOM and transportables, non-deployable, and portable laptop workstations. AFMSS Block C1.5 software is operationally fielded to the Combat Air Forces (CAF). The AFMSS placed on contract for delivery in FY97, incorporates new technology that reduces the number of transportable cases from 15 to six, reducing world-wide deployment requirements for operational squadrons.
- The AFMSS program is managed by the Directorate for Mission Planning Systems, Electronic Systems Center, Hanscom AFB, Massachusetts. Contractor for the AFMSS project is Sanders, a Lockheed Martin Company, Nashua, New Hampshire. In-house (Government) work is performed by Oklahoma City-Air Logistics Center (OC-ALC), Tinker AFB, Oklahoma; Sacramento Air Logistics Center (SM-ALC), McClellan AFB, Sacramento, California; Warner Robins Air Logistics Center, (WR-ALC), Warner Robins AFB, Georgia; and Ogden Air Logistics Center (00-ALC), Hill AFB, Utah.

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RE	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Echanomy 1007
BUDGET ACTIVITY 7 - Operational St	вирает Астинт 7 - Operational System Development	PE NUMBER AND TITLE 0208006F Mission Planning Systems	PROJECT NS Project
(U) <u>FY 1996</u> - (U) \$14,969 - (U) \$ 992 - (U) \$ 1,368 - (U) \$ 1,738 - (U) \$ 1,738	AFMSS Block C2.0/C2.1 software development continued. The next AFMSS software release, C2.2, underwent requirements generation and analysis. Began AFMSS/PC rearchitecture Global Command and Control System (GCCS) migration study effort. Continued AFMSS A/W/E support/integration to A/OA-10, F-15, F-16, F-22, EF-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MH-47, MH-53, MH-60, U-2, and C/AC/EC/MC-130, Total	ued. quirements generation and analysis. 1 Control System (GCCS) migration study effort. 1-10, F-15, F-16, F-22, EF-111, F-117, JSTARS, AW.	VACS, ABCCC, AGM-130/GBU-15, H-60, U-2, and C/AC/EC/MC-130,
(U) FY 1997 (U) \$11,970 (U) \$ 3,050 (U) \$ 1,785 (U) \$ 830 (U) \$ 830	Finalize additional C2.0/C2.1 software requirements development. Begin C2.2 software development. Continue AFMSS/PC rearchitecture (GCCS) migration study effort.	C2.1 software requirements development. elopment. support/integration to A/OA-10, F-15, F-16, F-22, EF-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15 B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MH-47, MH-53, MH-60, U-2, and C/AC/EC/MC-130, rehitecture (GCCS) migration study effort.	ACS, ABCCC, AGM-130/GBU-15, H-60, U-2, and C/AC/EC/MC-130,
(U) <u>FY 1998</u> - (U \$12,601 - (U) \$ 2,555 - (U) \$ 1,370 - (U) \$16,526	Continue C2.2 software development. Begin AFMSS/PC rearchitecture (GCCS) migration effort. Continue AFMSS A/W/E support/integration to A/OA-10, F-15, F-16, F-22, EF-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15, JDAM, JSOW, B-1, B-2, B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MH-47, MH-53, MH-60, U-2, and C/AC/EC/MC-130, WCMD, and SR-71. Total	levelopment. itecture (GCCS) migration effort. support/integration to A/OA-10, F-15, F-16, F-22, EF-111, F-117, JSTARS, AWACS, ABCCC, AGM-130/GBU-15 B-52, KC-10, KC/EC/RC-135, C-5, C-17, C-141, MH/AH-6, MH-47, MH-53, MH-60, U-2, and C/AC/EC/MC-130,	ACS, ABCCC, AGM-130/GBU-15, 1-60, U-2, and C/AC/EC/MC-130,
(U) <u>FY 1999</u> (U) \$ 1,740 (U) \$14,324	Continue and finalize C2.2 development with release scheduled for 1st quarter. Continue AFMSS / PC re-architecture GCCS migration	heduled for 1st quarter.	
Project Project 1	Pag	Page 2 of 7 Pages	Exhibit R-2 (PE 0208006F)

RDT&E BUDGET ITEM J	TEM JUSTIFICATION SHEET (R-2 Exhibit)	T (R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208006F MISSI	PE NUMBER AND TITLE 0208006F Mission Planning Systems	nning Systen	PROJECT Project
(U) \$ 1,370 Continue AFMSS A/W/E support JDAM, JSOW, B-1, B-2, B-52, K WCMD, and SR-71 (U) \$17,434 Total	/mtegration to A/OA-10, F-15, F-11 C-10, KC/EC/RC-135, C-5, C-17, (6, F-22, EF-111, F-1 C-141, MH/AH-6, M	17, JSTARS, AW7 IH-47, MH-53, MF	S, ABCCC, AGM-130/C 0, U-2, and C/AC/EC/M
(U) B. Program Change Summary (\$ in Thousands)				
(U) FY 1997 President's Budget (U) Appropriated Value	FY 1996 19,068 18,500 20,585 18,500	<u>FY 1998</u> 17,129	FY 1999 18,118	Lotal <u>Cost</u> TBD
(C) Adjustments to Appropriated value a. General Congressional Reductions b. Small Business Innovative Research (SBIR) c. Below Threshold Reprogramming	-209 -423 -439 -442 -77			
d. Rescissions (U) Adjustments to Budget Years Since FY97 PB (U) FY 1998 Presidentis Budget	-793 19,067 17,635	-603 16,526	-684 17,434	TBD
 (U) Change Summary Explanation: (U) Schedule: The C2.0/C2.1 software releases have been rescheduled for delivery to the field in middle/late FY97 following developmental and operational testing to verify fixes to operational deficiencies. 	have been rescheduled for delivery	y to the field in midd	le/late FY97 follow	ving developmental and operational
(c) recuired. Ariviss C1.3 software update release to C1.0 is operationally fielded. Other aircraft and weapons will integrate with AFMSS once C2.0/C2.1 is available.	lease to C1.0 is operationally fielde	ed. Other aircraft an	d weapons will inte	grate with AFMSS once C2.0/C2.1 i
Project Project 1	Page 3 of 7 Pages	8	EX	Exhibit R-2 (PE 0208006F)

RDT&E BUDGET ITE	EM JUSTIFICATION SHEET (R-2 Exhibit)	FIFICAT	HS NOI	IEET (R	-2 Exhil	oit)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development			PE NU 020	PE NUMBER AND TITLE 0208006F MISS	ITLE ISSION PI	PE NUMBER AND TITLE 0208006F Mission Planning Systems	systems		PRO Pro	PROJECT Project
(U) C. Other Program Funding Summary (\$ in 7	Thousands)								. 6	
(U) Other Procurement, Air Force, PE 0208006F (U) Operations & Maintenance, Air Force 0208006F	FY 1996 17,513 20,874	FY 1997 18,245 25,187	FY 1998 16,428 23,716	FY 1999 16,365 23,380	FY 2000 16,460 25,079	FY 2001 16,571 29,990	FY 2002 16,645 25,351	EY 2003 16,698 27,749	To Comt Cont	Total Cost TBD TBD
(U) O&M funds for PE 28006F support the software and hardware maintenance costs of AFMSS and CMPS. These funds also support the maintenance of the following existing operational systems until replaced by AFMSS. Mission Support System II (MSS IIA) supports existing combat capability for the F-15 and F-16 aircraft mission planning (F/RF-4 and F-111 are now retired). Mission Data Preparation System (MDPS) supports conventional and nuclear mission planning, aircraft/weapons avionics loading, compatibility between evolving B-1B, B-52H avionics, their weapons systems, and USSTRATCOM. O&M funding supported approximately 240 older systems in FY94. By FY99, a similar amount of funding will support over 1500 mission planning systems world-wide.	re and hardwa SS. Mission S on Data Prepa H avionics, th	re maintena upport Syst ration Syste reir weapon:	nnce costs of em II (MSS m (MDPS); s systems, ar planning syv	AFMSS and IIA) support supports con ad USSTRA' stems world.	I CMPS. The sexisting conventional are TCOM. O&	tese funds al ombat capabi id nuclear m cM funding s	so support the lility for the lission plann supported ap	he maintenand F-15 and F-16 ing, aircraft/w proximately 2	ce of the follo 5 aircraft miss reapons avion 240 older syst	wing ion ics ems in
(U) There are no other related RDT&E activities for unit level mission planning in the USAF. Over 40 individual aircraft and weapons programs develop their respective software that is used in conjunction with the AFMSS core software. The aircraft and weapons software is a complimentary, synergistic effort that provides specific aircraft and weapons information and functionality to the core AFMSS software. The combined software gives the warfighter the full spectrum of mission planning and combat capabilities for their aircraft or weapon including interoperability with planned Theater Battle Management (TBM) systems.	r unit level m core softwar re AFMSS soi eroperability	ission planre. The aircr flware. The with planne	ing in the U aft and wear combined s I Theater Ba	SAF. Over softwar oftware give ittle Manage	40 individua e is a compl ss the warfig ment (TBM)	il aircraft an imentary, sy hter the full systems.	d weapons p nergistic eff spectrum of	rograms deve ort that provic mission plant	slop their resp des specific ai ning and com'	ective rcraft bat
Project 1			Page 4 of 7 Pages	7 Pages			Exhibi	Exhibit R-2 (PE 0208006F)	(08006F)	
			1482							

RDT&E BUDGET	_	N N	JSTII	\ <u>\</u>	No.	TEM JUSTIFICATION SHEET (R-2 Exhibit)	[R-2	Exhi	oit)			DATE	February 1997	7 19	97
BUDGET ACTIVITY 7 - Operational System Development	ment					PE NUMBER AND TITLE 0208006F MISS	AND TITL F Miss	D TITLE Mission Planning Systems	annin	g Sys	tems			<u>a</u> 0	PROJECT Project
(U) D. Schedule Profile		FV 1996	900			FV 1997			7.5	FV 1998			FY 16	660	
		2	3 (2	4	_			_	12	3	4		2 3	3 60	4
(U) AFMSS Block C Workstation	×	×	•		,	×	×	×	×	×	×				
Deliveries On Block C1.5 Cleared for Operational				×											
Use				{											
(U) AFMSS Block C1.0 OT&E	* ;	;	;	;											
(U) AFMSS Block C2.0/C2.1 Devolutions and	×	×	×	×											
(U) AFMSS Block C2.0/C2.1 Engineering	×			**											
Software Releases / FQT				>											
(U) AFMSS Block C2.0 Early Operational Assessment				<											
(U) AFMSS Block C2.0 Software Release					×										
(U) AFMSS Block C2.1 Software Release															
(U) AFMSS Portable Deliveries					×		×	×	×	×	×	×	×	×	×
(U) AFMSS Block C2.0 OT&E begin						× ;		÷							
(U) AFMSS Block C2.2 Software							ч ч	<							
Development (11) AFMSS Block C2.2 Engineering								×							
Software Releases / FQT															
(U) AFMSS Block C2.2 Software Release									×						
(U) CMPS Software Delivery						×									
T - completion (11) AFMSS / PC Migration and							×	×	×	×	×	×	×	×	×
Rearchitecture GCCS Effort															
Project Project 1					Page	Page 5 of 7 Pages	S				Exhib	it R-2 (F	Exhibit R-2 (PE 0208006F)	06F)	
						1407									

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RDT&E PROGRAM ELEMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	r BREAKI	DOWN (R-3		DATE Eshinom, 4007
BUDGET ACTIVITY 7 - Operational System Development	PE NUM 0208	PE NUMBER AND TITLE 0208006F MISS	PE NUMBER AND TITLE 0208006F Mission Planning Systems	y Systems	PROJECT Project
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Primary Software Development (U) Aircraft/Weapons/Electronics (A/W/E) Development	13,495 1,222	12,087 1,201	11,269	12,199	
Studyout (U) Systems Engineering	2,559	2,554	2,424	2,496	
(U) Program Management (U) Miscellaneous	1,029	696	917	873	
(U) Total	19,067	17,635	050 16,556	736 17,434	
J		ı			
rioject rioject i	Page 6 of 7 Pages	Pages		Exhibit F	Exhibit R-3 (PE 0208006F)

RD	RDT&E PROGRAM EI	SRAM EL	EMENT/PROJECT	ROJECT		REAKD	COST BREAKDOWN (R-3)	(F)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopmer	ıt		PE NUMBER AN 0208006F	PE NUMBER AND TITLE 0208006F MISSI	D TITLE Mission Planning Systems	ng Systen	SI	į	PROJECT Project
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Plannin	g Information	(\$ in Thousa	ids)						
Performing Organizations:	ıizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Lockheed Martin FFP	ent Organizations FFP	§ Apr 91	2.702	2.702	2 702	C	C	c	c	c	7
Lockheed Martin	CPAF	Dec 92	167,939	167,939	56,774	17,057	13,288	12,349	13,309	55,161	167,939
Boeing	FFP	L/ Snu	6,455	6,455	6,455	0	0	00	00	0 0	2,438
Miscellaneous					2,892 14,534	0 762	0 824	0 836	0 756	0 3,024	2,892
Support and Management Organizations FFRDC Miscellaneous	ement Organizat	ions			6,947 4,095	219	2,554 969	2,424	2,496	10,050	24,471 10,346
Test and Evaluation Organizations n/a	Organizations n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
(U) B. Budget Acquisition History and Plannin	quisition Histor		g Information Continued (\$ in Thousands)	Continued (\$	in Thousands	্বে					
Subtotal Product Development	velopment				85,795	17,819	14,112	13,185	14.065	58.185	203.161
Subtotal Support and Management Total Project	d Management				11,042 96,837	1,248	3,523 17,635	3,341 16,526	3,369	13,542	36,065
Project Project 1				P_{c}	Page 7 of 7 Pages	sə.		Щ.	Exhibit R-3 (PE 0208006F)	0208006F)	
					1.40%						

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PE NUMBER: 0208060F

UNCLASSIFIED

PE TITLE: Theater Missile Defense

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development	ı.		PE NI 020	PE NUMBER AND TITLE 0208060F Thea	TITLE heater M	PE NUMBER AND TITLE 0208060F Theater Missile Defense	fense			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	24,059	30,585	29,182	31,682	30,330	33,319	28,301	25,120	TBD	Continuing
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	12,167	21,860	21,162	23,588	21,749	24,150	17,838	14,026	TBD	Continuing
4479 Attack Operations Concept Development	11,892	8,725	8,020	8,094	8,581	9,169	10,463	10,951	TBD	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Air Force Theater Missile Defense (TMD) is focused in three areas: Command, Control, Communications, Computers, and Intelligence (C41) enhancements; Improvements systems developed by each of the Services and the Ballistic Missile Defense Organization (Patriot, THAAD, etc.). C41 enhancements improve our ability to assess, target, (DPM), and Attack Operations Decision Aid (AODA)), Intel Support Systems (Intel Support Concept and Real Time Intel Tools) and integration of these systems within infrastructure, including theater missile threats in production, deployment, prior to and during launch, as well as soon after launch before critical mobile targets are able to to existing Attack Operations systems; and the development of the Airborne Laser. PE028060F is primarily concerned with C4I and Attack Operations as part of the Air Force focus in TMD, but also addresses some initial BMC4I studies and analysis for the Airborne Laser (ABL) technology program. AF TMD concentrates on defining making near-term modifications to existing theater assets. The TMD program seeks to improve existing operational capability, evaluate and demonstrate prototypes, as improvements to existing operational capabilities, developing and evaluating prototypes, demonstrating as well as simulating modifications during operational concept Integration and JTIDS Range Extension), Distributed Battle Management, Operations Decision Tools (Time Critical Target Aid (TCTA), Defensive Planning Module platforms (Joint STARS, F-15E, Rivet Joint, U-2). The Air Force program is based upon taking our defense against the growing theater missile threat to the enemy by demonstrations, and coordinating the transition of these capabilities to operational systems. C4I improvements contribute greatly to the overall effectiveness of TMD plan and task attackers to counter Theater Missile (TM) threats. The C41 program encompasses JTIDS TMD Upgrades (including, for example, TMD Message Set egress to hide locations. The foundation for Attack Operations is improved C4I and automatic target cueing/recognition (ATC/R) upgrades to one or more airborne the Air Force and among the Services. Attack Operations focuses on improving the ability to locate, identify, target and destroy theater missiles and supporting well as simulate and demonstrate modifications during operational concept demonstrations.

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Exhibit R-2 (PE 0208060F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fohrman 1007
BUDGET ACTIVITY 7 - Operational System Development 0208060F Theater Missile Defense	inse
Wright Labs and support Concept of Operations (CONOPS) development and requirements definition by analyzing and demonstrating measures of effectiveness for various sensor improvements and cueing schemes. HQ ESC provides program management for the concept exploration of C4I enhancements. Prototypes and analysis of improvements and cueing schemes. HQ ESC provides program management for the concept exploration of C4I enhancements. Prototypes and analysis of improvements to existing C4I assets will complement the Attack Operations effort with combined participation in Operational Concept Demonstrations. These Attack Operations and C4I analyses and demonstrations are specifically targeted against operational deficiencies identified in the TMD Mission Area Plan (MAP), are traceable to the AF and JROC Mission Need Statement (MNS) and are consistent with the Air Force and Joint TMD CONOPS and in accordance with Joint Doctrine. Integration of TMD requirements and fielding of proposed material solutions will continue beyond concept exploration in the appropriate program element for a particular system. For example, the TMD demonstration and requirements analysis for F-15E ATC/R may transition into a F-15E Engineering & Manufacturing Development (EMD) and P3I project within the F-15E program element. Existing contracts will be used for those systems where engineering change proposals are appropriate. Systems Engineering and Technical Analysis (SETA) contracts will be followed to establish a new contract.	. ASC conducts lab demonstrations with strating measures of effectiveness for various ments. Prototypes and analysis of concept Demonstrations. These Attack Mission Area Plan (MAP), are traceable to lance with Joint Doctrine. Integration of strangement for a particular system. For tracturing Development (EMD) and P31 als are appropriate. Systems Engineering hose areas where new material solutions are

(U) B. Program Change Summary (\$\sumshipset{S}\$ in Thousands)

Total Cost TBD TBD			TBD
FY 1999 45713			-14031 31682
FY 1998 45134			-15952 29182
FY 1997 22285 31285	-700		+9000
FY 1996 24230 25102	629-	-17	24059
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	a. Congressional General Reductions b. Small Business Innovative Research (SBIR)	c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions	(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1997 President's Budget

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Exhibit R-2 (PE 0208060F)

RDT&E BUDGET ITEM JUSTIFIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Theater Missile Defense	
Schedule: The deletion of Link-16 integration in the F-15E fror planned integration under the F-15E program (after FY00). An integrated into Theater Air Control System (TACS) C2 nodes.	Schedule: The deletion of Link-16 integration in the F-15E from this PE will delay implementation of a datalink capability in air to ground aircraft until the planned integration under the F-15E program (after FY00). An Airborne Distributed Battle Management prototype will be delayed until FY00/01, when DBM is integrated into Theater Air Control System (TACS) C2 nodes.	to ground aircraft until the ed until FY00/01, when DBM is
Technical: N/A		
(U) C. Other Program Funding Summary (\$ in Thousands): N/A		
	Page 3 of 16 Pages	Exhibit R-2 (PE 0208060F)

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RDT&E BUDGET ITEM J	EM JUSTIFICATION SHEET (R-2 Exhibit)	EET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 7 - Operational System Development	PE NUI 0208	PE NUMBER AND TITLE 0208060F Theater Missile Defense	repruary 1997
(U) D. Schedule Profile			
(U) ATC/R Demos (F-15E/Surveillance) (U) TPS-75 Expert Missile Tracker Prototypes/Contingency Support Systems (U) TACCSF (U) Intel Support Systems: ISC updates; Syria, Iran, and Iraq, and automation of country studies (U) TMD TACS systems requirements (U) TMD TACS systems decision aids & planning tools) (U) Ops Concept Demonstrations	EY 1996 2 3 4 1 2 X X X X X X X X X X X X X X X X X X X	FY 1997 2	FY 1999 X X X X X
	Page 4 of 16 Pages		Exhibit R-2 (DE OZORORDE)

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	1-2 Exhi	bit)		DATE Fe	February 1997	797
BUDGET ACTIVITY 7 - Operational System Developmen	t t		PE NI 020	PE NUMBER AND TITLE 0208060F Theater Missile Defense	пт <u>г</u> heater M	issile De	fense		4	PROJECT 4478
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4478 Command, Control, Communications, Computers, and Intelligence Enhancements	12,167	21,860	21,162	23,588	21,749	24,150	17,838	14,026	TBD	TBD Continuing

(U) A. Mission Description and Budget Item Justification

C4I enhancements are needed to reduce the battle management and command & control timelines associated with the theater missile threat. The C4I program includes:

- 1) Operations and maintenance of the Theater Air Command and Control Simulation Facility (TACCSF);
- 2) Procurement of four MCE/TPS-75 prototypes with expert missile tracker (EMT) and correlator capability;
- 3) Intel Support Systems which include the development and revision of the Intel Support Concept (ISC), digitization of the country studies and development of processes and tools for automated application of TMD Intelligence Preparation of the Battlespace (IPB);
- 4) JTIDS TMD upgrades which are the development and integration of TMD messages into JTIDS host platforms and the extension of JTIDS beyond line of sight;
- 5) Operations Decision Support Tools which include the integration of the Time Critical Target Aid into TBM Core Systems (TBMCS) architecture, the development and migration of the Defensive Planning Module into TBMCS, and initiating the development of the Attack Operations Decision Aid.
- This includes the development, integration and test of the DBM capability on an airborne platform. The program will leverage off the capabilities of the current ground Combat Integration Capability (CIC) program which integrates and fuses various intelligence and surveillance feeds to provide the Joint Force Commander (JFC) Joint 6) Distributed Battle Management concept, which enhances the forward execution capabilities of the TACS to counter the short timeline of time critical targets. Force Air Component Commander (JFACC) with an effective battle management capability.

Project 4478

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R	RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational S	вирсет Астіvітү 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Theater Missile Defense	PROJECT 4478
(U) \$\frac{FY 1996 (\frac{\pi}{\pi} \text{in Thousands}):}{(U) \\$5200 Continueccond (U) \\$3817 Continueccond (U) \\$5200 TMD JTII TCTA and Distributecond (U) \\$12,167 Total (U) \\$14900 Completecond (U) \\$1997 (\frac{\pi}{\pi} \text{in Thousands}):}{(U) \\$1990 Completecond (U) \\$1300 Intel Support (U) \\$2660 JTIDS TW developm (U) \\$2660 Total (U) \\$21,860 Total (U) (Continued support for Theater Air Command and Control Simulation Facility (TACCSF) Continued missile tracker prototype acquisition for MCE/TPS-75 Intel Support Systems—Developed processes and tools for automatic production of digitiz TMD JTIDS message integration into CRC, Rivet Joint, and Cobra Ball; JTIDS massage integration into CRC, Rivet Joint, and Cobra Ball; JTIDS Range Ex TCTA and Defensive Planning Module (DPM) and began design for Theater Battle Mana Distributed Battle Management (DBM) analysis and design. Thousands): Complete TACCSF operations support for C4I simulation and analysis; begin incorporati Complete TACCSF operations support for C4I simulation and analysis; begin incorporati Complete DECTPS-75 missile tracker and correlator capability with final delivery. Intel Support Systems - Update Intelligence Support Concept (ISC); Complete developme IPB information and transition into Theater Battle Management Core Systems (TBMCS). JTIDS TMD message integration into JSTARS, ABCCC and AOC; Complete JTIDS Randevelopment of TCTA (DIS compatible) and DPM VI.0 and transition to TBMCS; Comp CONOPS validation; Investigate procedures and advanced technology for Attack Operatin Total	tousands): Continued support for Theater Air Command and Control Simulation Pacility (TACCSF) operations for C4I simulation and analysis Continued missile tracker prototype acquisition for MCE/TPS-75 Intel Support Systems and tools for automatic production of digitized TMD Intel Prep of the Battlefield (IPB) information. TMD JTIDS message integration into CRC, Rivet Joint, and Cobra Ball; JTIDS Range Extension concept implementation. Development of TCTA and Defensive Planning Module (DPM) and began design for Theater Battle Management Core Systems (TBMCS) integration; started Distributed Battle Management (DBM) analysis and design. Total Total Complete TACCSF operations support for C4I simulation and analysis; begin incorporation of simulator link to UII-1N SOF simulator. Complete MCE/TPS-75 missile tracker and correlator capability with final delivery. Intel Support Systems - Update Intelligence Support Concept (ISC); Complete development of tool for automatic application of digitized TMD Ressage integration into Thater Battle Management Core Systems (TBMCS). TITIDS TMD message integration into Link Table Danagement Core Systems (TBMCS), Complete DBM rade and analysis; Continue development of TCTA (DIS compatible) and DPM VI.0 and transition in the STARS, ABCCC and AOC, Complete DBM rade and analysis/platform impacts and Total	nulation and analysis the Battlefield (IPB) information. ementation; Development of it (TBMCS) integration; started ic application of digitized TMD ance and cost analysis; Continue nalysis/platform impacts and 0DA).
Project 4478	Pa	Page 6 of 16 Pages Exhib	Exhibit R-2 (PE 0208060F)

BUDGET ACTIVITY	NOTAL BODGET TEM SOSTIFICATION	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
7 - Operational Sys	вирдет АСТIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Theater Missile Defense	
(U) FY 1998 (\$ in Thousands): (U) \$2717 Integrate automatec (U) \$11045 Continue DBM dev (U) \$7400 Integrate Integ	IPB Tool and I procedures a to integrate JJ elopment env DPM V2.0 an planning tool npacts to BM npacts to BM	release with TBMCS; Adapt IPB tool for Air Intelligence Agency's Virtual Production environment; Demonstrate nd system capabilities in Ops Concept Demonstrations, CINC experiments and Joint Exercises. TDS TMD message sets into JTIDS host platforms; Begin JTIDS Range Extension implementation; Establish Airborne ironment and DBM unique prototyping/technology development. TCTA (ground targeting) and release with TBMCS; Begin AODA prototype/technology development. Explore use of start of the communication and computer processing improvements, sensor fusion technology and sensor C4I Theater Missile Defense connectivity.	ction environment; Demonstrate int Exercises. n implementation; Establish Airborne hnology development. Explore use of or fusion technology and sensor
(U) FY 1999 (\$ in Thousands): (U) \$4350 Continue IPB syster (U) \$8860 JTIDS/Lir implement (U) \$10378 Operation Theater M platform u development (U) \$23,588 Total	to adapt the IR n capabilities nk-16 Integrat tation. s Decision Sulissile engager pgrades: battl and design	B tool for Air Intelligence Agency's Virtual Production environment; Demonstrate improved automated procedures in Ops Concept Demonstrations (OCDs), CINC experiments and Joint Exercises. ion: Complete integration of JTIDS/Link-16 TMD message sets onto major C2 nodes; Continue JTIDS Range Extenpport Tools - Upgrade DPM (deployment planner), continue to explore BMC4I/sensor improvements that compress nent timelines and demonstrate integrated capabilities in OCDs, CINC experiments, and Joint Exercises. Begin DBI e management, target nomination and communication improvements; Complete AODA prototype/technology for CIC integration.	te improved automated procedures and des; Continue JTIDS Range Extension asor improvements that compress is, and Joint Exercises. Begin DBM AODA prototype/technology
Project 4478	Pas	Page 7 of 16 Pages	Exhibit R-2 (PE 0208060F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATIONS	HEET (R.	2 Exhibit		DATE	
BUDGET ACTIVITY 7 - Operational System Development	PEN 02	PE NUMBER AND TITLE 0208060F Thea	TLE leater Miss	PE NUMBER AND TITLE 0208060F Theater Missile Defense	February 1997 PROJECT	c
(U) B. Program Change Summary (S in Thousands)						
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 12059 12590	FY 1997 13374 13374	<u>FY 1998</u> 26713	FY 1999 27086	Total Cost TBD TBD	
a. Congressional General Reductions b. Small Business Innovative Research (SBIR) c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	-304	-514				
e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB	-119	+9000 21860	-5551 21162	-3498 23588	TBD	
(U) Change Summary Explanation: Funding: FY97 plus-up for integration of UH-1N Simulator into the TACCSF simulation environment. Changes in FY98 and FY99 were due to deletion of A Defense Decision Aid (ADDA), and deletion of an early airborne prototype for Distributed Battle Management (DBM). These programs were deleted to fund higher priority AF programs.	o the TACCSF si ne prototype for]	mulation envir Distributed Bat	onment. Chan	ges in FY98 and F' it (DBM). These p	UH-1N Simulator into the TACCSF simulation environment. Changes in FY98 and FY99 were due to deletion of Active ion of an early airborne prototype for Distributed Battle Management (DBM). These programs were deleted to fund	ive
Schedule: An airborne Distributed Battle Management prototype will be delayed until FY00/01, when DBM is integrated into Theater Battle Management Core Systems (TBMCS).	e will be delayed	l until FY00/01	, when DBM is	integrated into TR	leater Battle Management Cor	
Technical: N/A						
(U) C. Other Program Funding Summary (\$ in Thousands): N/A						
Project 4478	Page 8 of 16 Pages	6 Pages		m X Y	Exhibit R-2 (PE 02080e0E)	
	1494					7

RDT&E BUDGET ITEM JUSTIFIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0208060F Theater Missile Defense	PROJECT 4478
(U) D. Schedule Profile: See page 3.		
FY 1996		FY 1999
1	· ×	
Prototypes/Contingency Support Systems	×	
(U) Intel Support Systems: ISC updates; X	×	×
Syria, Iran, and Iraq, and automation of country studies		
(U) TMD TACS systems requirements X (JTIDS message upgrades, decision aids & planning tools)	×	×
Project 4478	Page 9 of 16 Pages Exhib	Exhibit R-2 (PE 0208060F)

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8	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKD	OWN (R-	3)	DATE	February 1997	797
BUDGET ACTIVITY 7 - Operations	- Operational System Development	evelopmer	# #		PE NUMBER AN 0208060F	PE NUMBER AND TITLE 0208060F Theat	отпте Theater Missile Defense	Defense			PROJECT 4478
(U) A. Project Cost Breakdown (S0 in Thousands)	ost Breakdown (\$0 in Thousar	(इप्रा	FY 1996		FY 1997	FY 1998	FY 1999			
 (U) TACCSF (U) Intelligence Support Systems (ISC/Automated IPB) (U) MCE/TPS-75 Missile Tracking System (U) JTIDS/Link-16 Integration & Beyond LOS Capability (U) Distributed Battle Management (DBM) (U) Operations Decision Support Tools (planning tools, decision aids, C4I processing and sensor fusion technologies) (U) Total 	TACCSF Intelligence Support Systems (ISC/Automated IPB) MCE/TPS-75 Missile Tracking System JTIDS/Link-16 Integration & Beyond LOS Capability Distributed Battle Management (DBM) Operations Decision Support Tools (planning tools, sion aids, C4I processing and sensor fusion technologic	ISC/Automatec § System 3eyond LOS C; t (DBM) ools (planning nsor fusion tec	I IPB) apability tools, thnologies)	5100 650 3709 1000 1100 608		14900 1300 3000 520 300 1840	0 2717 0 8645 2400 7400	0 4350 0 8860 6378 4000			
(U) B. Budget Acquisition History and Planni	quisition Histor		g Information	ng Information (\$0 in Thousands)	ds)						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Martin Marietta FFP	ent Organizations FFP	oct 95		ACCDRA	9100	4700	14900	0	0	TBD	28,700
North/Grumman (TPS, 75)	FFP	Oct 95		ESC/AVT		2069	2142	0	0	TBD	4,211
Zeltech/SPARTA PSR/BETAC	T&M	May 96		ACC/INX	200	837	830	2294	3693	TBD	8,154
(ITD) Logicon (DBM) Alphatech (DPM) Motorola (TCTA)	T&M T&M T&M	May 96 Mar 95 Mar 96		ESC/XRS ESC/XRS ESC/XRS		1131 500 500	0 840 885	2038 3736 849	5397 849 0	TBD TBD TBD	8,566 5,925 2,234
Project 4478				Page	Page 10 of 16 Pages	šeš		Exhi	Exhibit R-3 (PE 0208060F)	0208060F)	
					1406						

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RD.	RDT&E PROGRAM E		EMENT/P	LEMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	792
BUDGET ACTIVITY 7 - Operational System Development	l System D	evelopmer	<u> </u>		PE NUMBE 020806	PE NUMBER AND TITLE 0208060F Theat	PE NUMBER AND TITLE 0208060F Theater Missile Defense	Defense		g 4	PROJECT
Contractor or	Contract										
Government Performing	Method/Type or Funding	Award or	Performing	Project	Total	ć		,		,	
Activity	Vehicle	Date	EAC	EAC	FY 1996	Budget FV 1996	Budget FV 1997	Budget FV 1008	Budget EV 1000	Budget to	Total
North/Grm (MSI)	T&M	Nov 96		ESC/JSX	0	0	170	1189	425	TRD	1 784
AODA-For Profit Contractor	TBD	Oct 97		ESC/XRS	0	0		1698	2547	TBD	
Lock/Mart	T&M	Mar 97		ESC/XRS			50	0	C	TRD	ç
(MSI)	TBD	M 00		2	•	,	į		•	}	2
JRE-For Profit	TBD	Nov 96 Oct 97		ESC/XRS ESC/XRS	00	00	200 0	0 6151	0 7098	TBD	200
Contractor											
Support and Management Organizations	ment Organizat	ions									
FFRDC					1605	1395	975	1784	1992	TBD	7.751
Non-FFRDC					1935	1035	534	892	966	TBD	5,392
ny Esc					2251	0	334	531	591	TBD	3,707
Test and Evaluation Organizations	Organizations										
TBD										٠	
Total Project					15391	12167	21860	21162	23588	TBD	TBD
Project 4478				Page	Page 11 of 16 Pages	çes		Exhi	Exhibit R-3 (PE 0208060F)	0208060F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION SI	HEET (R	1-2 Exhi	bit)		DATE	Fobriton, 4007	29
BUDGET ACTIVITY 7 - Operational System Development	L		PE NI 020	PE NUMBER AND TITLE 0208060F Thea	PE NUMBER AND TITLE 0208060F Theater Missile Defense	issile De	fense		oluany 15	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4479 Attack Operations Concept Development	11,892	8,725	8,020	8,094	8,581	9,169	10,463	10,951	TBD	Continuing
(U) A. Mission Description and Budget Item Justification Improvements in Attack Operations are based on the ability to locate, identify, and destroy theater missiles, their launchers, and associated infrastructure on the ground. In addition to the enhancements to C41, the Attack Operations Project focuses on advanced sensor and target identification capabilities, CONOPS and requirements development for TMD offensive counter-air and their optimized integration with defensive systems. Specific technologies such as automatic target cueing/recognition (ATC/R) and moving target indicator/track (MTI/T) upgrades to Joint STARS, F-15E and potentially the U-2, F-16 and UAVs are to be analyzed using constructive analysis and evaluated through Technology/Operational Concept Demonstrations and CINC Experiments along with command and control connectivity upgrades critical to their optimum employment against time-critical targets. Effectiveness and affordability parameters defined will be used in support of follow on acquisition decisions involving P31 upgrades to existing weapon systems and potential new start programs within existing/other program elements.	stification to ability to le perations Pro eir optimized) upgrades to ional Concep gets. Effectiv	ocate, identificate focuses integration Joint STAR t Demonstra veness and a leave start plant occurs.	fy, and destr on advancec with defensi tS, F-15E an tions and CI ffordability regrams with	oy theater m d sensor and ive systems. nd potentiall. INC Experim parameters of thin existing/	issiles, their target identii Specific tec. y the U-2, F. rents along w lefined will to other progra	launchers, ar fication capa hnologies su tho and UAV vith comman oe used in su melements.	nd associatee bilities, COI ch as autom 's are to be a id and contro pport of foll	d infrastruct NOPS and re atic target or analyzed usii ol connectivi ow on acqui	ure on the graquirements reing/recogn ng construct try upgrades isition decisi	ound. In ition ition ve critical to
 (U) FY 1996 (\$\$ in Thousands): (U) \$495 Prototype analysis of surveillance ATC/R demonstration. (U) \$895 Conducted Operational Concept Demonstration with participation in CINC experiments. (U) \$2604 Conducted Operational Affacts of Sensor Prototypes and Attack Operations improvements (U) \$3013 Conducted definition studies and analysis on Airborne Laser (U) \$4885 F-15E ATC/R demonstration. (U) \$11,892 Total 	rveillance ATC/R demonstration. Concept Demonstration with part definition and analysis of sensor udies and analysis on Airborne La ation.	C/R demonst onstration wi analysis of sis on Airbo	tration. ith participat sensor proto orne Laser	tion in CINC otypes and A	experiment ttack Operati	s. ions improve	ements			
 (U) \$1197 (\$\$\$\$ in Thousands): (U) \$1190 Conduct demonstration of surveillance ATR prototype. (U) \$3367 Conduct Attack Operations Operational Concept Demonstration. (U) \$1528 Continue analysis of architectures with weapon system upgrades, improved model fidelity and threat scenarios. (U) \$2640 Conduct demonstration of F-15E ATC/R prototype. (U) \$8,725 Total 	of surveillance ATR prototy ons Operational Concept De hitectures with weapon syst of F-15E ATC/R prototype.	ATR protot Il Concept D I weapon sys	type. emonstratio stem upgrade	n. es, improved	model fidel	ity and threa	t scenarios.			
(U) <u>FY 1998 (\$ in Thousands):</u> • (U) \$2468 Conduct Attack Operations Operational Concept Demonstration.	18 Operationa	I Concept D	emonstratio	Ė						
Project 4479			Page 12 of 16 Pages	16 Pages			Exhibit	Exhibit R-2 (PE 0208060F)	2080 <u>6</u> 0F)	

RDT&E BUDGET	GET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R-2 Exhibi	t)	DATE February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	lopment	PE NUMBER AND TITLE 0208060F Thea	ттге Theater Mis	e number and title 0208060F Theater Missile Defense	4	РRОЈЕСТ 4479
 (U) \$1650 Continue analgement an engagement an (U) \$3902 Conduct development (U) \$8,020 Total 	Continue analysis of architectures with weapon system and BMC41 upgrades, incorporate model and threat scenario upgrades and perform engagement analyses for input to future year mission analysis. Conduct development of F-15E ATC/R prototype integrated with improved on/off-board sensor fusion. Total	em and BMC41 upgr n analysis. ntegrated with improv	ades, incorporate red on/off-board	model and threat sensor fusion.	scenario upgrades and perto	ш
(U) FY 1999 (\$\frac{\pi}{\pi}\$ in Thousands): (U) \$2458 Conduct Attack Operation \$\frac{\pi}{\pi}\$ (U) \$1755 Continue analysis of up perform engagement an \$\frac{\pi}{\pi}\$ (U) \$3881 Conduct demonstration \$\frac{\pi}{\pi}\$ (U) \$8,094 Total	iousands): Conduct Attack Operations Operational Concept Demonstration. Continue analysis of updated architectures with weapon system and BMC4I upgrades, incorporate obscured targets and weapon effects and perform engagement analyses for input to future year mission analysis. Conduct demonstration of F-15E ATC/R prototype with sensor fusion. Total	emonstration. toon system and BM6 ar mission analysis. with sensor fusion.	24I upgrades, inc	orporate obscured	l targets and weapon effects a	pur
(U) B. Program Change Summary (\$ in Thou	in Thousands)					
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Congressional General Reductions	FY 1996 12171 12512 ns -375	FY 1997 8911 8911 -186	<u>FY 1998</u> 18421	<u>FY 1999</u> 18627	Total Cost TBD TBD	
 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB 	rold Reprogram -17 18 -228 FY 1997 PB 11892	8725	-10401 8020	-10533 8094	TBD	
(U) Change Summary Explanation: Funding: Change in FY97 due to payment of Air Force Bil Schedule: The deletion of Link-16 integration in the F-15I planned integration under the F-15E program (after FY00)	nge Summary Explanation: Funding: Change in FY97 due to payment of Air Force Bills. Changes in FY98 and FY99 were due to deletion of Link-16 integration in the F-15E. Schedule: The deletion of Link-16 integration in the F-15E from this PE will delay implementation of a datalink capability in air to ground aircraft until the planned integration under the F-15E program (after FY00).	s in FY98 and FY99 PE will delay implen	were due to dele	ion of Link-16 ir alink capability in	ntegration in the F-15E. 1 air to ground aircraft until th	91
Technical: N/A	·			i.	7.0000000000000000000000000000000000000	
Project 4479		Page 13 of 16 Pages		Ĥ	Exhibit R-2 (PE 0208060F)	
		1400				

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RDT&E BUDGET ITEM JUS	STIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0208060F Theater Missile Defense	PROJECT 4479
(U) D. <u>Schedule Profile</u> :			
(U) ATC/R Demos (F-15E/Surveillance) (U) Ops Concept Demonstrations	86 × 4 4	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$
Project 4479	Page	Page 14 of 16 Pages	Exhibit R-2 (PE 0208060F)
		1500	

R	RDT&E PROGRAM E	GRAM EI	EMENT/	EMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R	-3)	DATE	February 1997	797
BUDGET ACTIVITY 7 - Operational System Development	nal System E	evelopme	nt		PE NUMBER AN 0208060F		D TITLE Theater Missile Defense	Defense			PROJECT 4479
(U) A. Project Cost Breakdown (\$ in Thousands)	Cost Breakdown	(\$ in Thousan	(sp								
				FY 1996		FY 1997	FY 1998	FY 1999			
(U) Definition Studies/Analysis Airborne Laser (U) Joint STARS ATC/R Demonstration/Improvements	idies/Analysis Aii ATC/R Demonstr	rborne Laser ration/Improve	ments	3013	013 495	0	00		0 0		
(U) Operational Concept Demonstration (U) Sensor Prototypes and Attack Ops Demonstrations/Sims	Concept Demonstry ypes and Attack C	ation Ops Demonstra	tions/Sims	895 2604	895 604	3367 1528	2468 1650	2458 1755	- 		
(U) F-15E ATC/R Demonstrations (U) Total	2 Demonstrations			4885 11,892	85 72	2640 8,725	3902 8020	3881 8094	· — 		
(U) B. Budget Acquisition History and Plannir	equisition Histor	ry and Plannin	ıg Information	ig Information (\$ in Thousands)	(spi						
Performing Organizations:	nizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing F3361594C1 436	tent Organizations F3361594C1 436	s Aug 94		HQ/ASC	772	0	0	0	0	781	781
Boeing	F3361585C1 765	30 May 86		HQ/ASC	890	0	0	0	0	068	890
Geometric	F3361594C1 441	Mar 95		HQ/ASC	65	0	0	0	0	TBD	TBD
Hughes-FD	F3361594D1 420000004	Mar 95		HQ/ASC	1234	1565	350	3006	1665	TBD	TBD
Norden	F3361592CI 045	Sep 94		HQ/ASC	540	0	0	0	0	TBD	TBD
Project 4479				Pag	Page 15 of 16 Pages	ıges		Exh	Exhibit R-3 (PE 0208060F)	0208060F)	

8	RDT&E PROGRAM EL	SRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	796
BUDGET ACTIVITY 7 - Operational System Developme	al System D		ŧ		PE NUMBEI 020806	PE NUMBER AND TITLE 0208060F Theat	PE NUMBER AND TITLE 0208060F Theater Missile Defense	Defense		4	PROJECT 4479
Contractor or Government	Contract Method/Type	Award or	Performing	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to	Budget	Budget	Budget	Budget	Budget to	Total
Veda	<u>Venicie</u> F3361594D1	<u>Date</u> Feb 95	EAC	EAC HQ/ASC	FY 1996 200	FY 1996 400	FY 1997 0	FY 1998 0	FY 1999 0	Complete TBD	Program TBD
Lincoln Lab Sverdrup	400000 AF FM 616 F3361594C1	Mar 95 Mar 95		HQ/ASC HO/ASC	100	35	00	00	0 0	100 Car	100 CdT
HSC/AL	425 AF FM 616	A119 94		, , , , , ,	0770	3 6		· ·	· •	da	
Sandia Nat Labs	MIPR	Mar 95		HO/ASC	8586	0	985 240	-	-	TBD	TBD
Lockheed Martin	AF FM 616	TBD		HQ/ASC	0	2422	1825	746	1521	TBD	TBD
Optimetrics ESC//ITF	TBD	TBD		HQ/ASC	00	00	0 0	0	150	TBD	TBD
Grumman	AF FM 616	Sep 96		HO/ASC	0	200	350	o c	o 0	1BD 850	UBI 058
ACC/XPSAS	AF FM 616	TBD		HQ/ASC	0	0	0	200	505	TBD	TBD
WL/AAZ	AF FM 616	TBD		HQ ASC	0	85	96	0	0	TBD	TBD
WL/AAR	AF FM 616	TBD		HQ/ASC	0	0	0	650	675	TBD	TBD
AL/Crill	AF FM 010	IBD Tin		HQ/ASC	0	0	0	800	745	TBD	TBD
WL/AAJ1	Ar rid 010	180		HQ/ASC	0	0	0	0	112	TBD	TBD
Support and Management Organizations FFRDC	ement Organizat	ions		HQ/ASC	757	82	648	210	230	TRD	TBD
Non-FFRDC				HQ/ASC	471	0	355	160	192	TBD	TBD
HQ ASC					561	4943	096	948	559	TBD	TBD
Test and Evaluation Organizations 28 Test/TOT AF FM 616	Organizations AF FM 616	Mar 95		HO/ACC	16	910	1316	050	1040	rat	Ë
AFSAA	AF FM 616	Feb 95		HQ/ACC	350	85	0	0	0	TRD	TRD
Eglin-46 Tst Wg		May 94		HQ/ASC	5296	150	1000	20	700	TBD	TBD
Total Project					22874	11892	8725	8020	8094	TBD	TBD
Project 4479				Pag	Page 16 of 16 Pages	Ses		ЯXЫ	Exhibit R-3 (PE 0208060E)	0208060E)	
									7 1 2 1 1 1 2	0500001)	

PE NUMBER: 0303110F

UNCLASSIFIED

PE TITLE: Def Satellite Comm Sys (Space)

	45 1110	TON ST	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-Z EXUII	oit)		Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	пте ef Satelli	te Comn	Sys (Sp	ace)	P 2	PROJECT 2638
COST (\$ In Thousands) FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2638 Defense Satellite Communications Sys 33,477	27,279	10,547	17,589	6,872	6,506	3,062	2,304	5,200	634,014
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

rate transmissions in the SHF frequency band. DSCS provides unique and vital national security communications for global command and control, crisis management, relay National Command Authorities, Global Command and Control System, Diplomatic Telecommunications Service, White House Communications Agency, the Navy, the Air (U) Defense Satellite Communications System (DSCS) is the backbone of the Government's satellite communications system, providing both secure voice and high data of intelligence and early warning data, treaty monitoring and surveillance information, and diplomatic traffic. The communications relayed through DSCS support the Force Satellite Control Network, and ground mobile forces of all services.

(U) This program is in Budget Activity 7, Operational System Development, because DSCS is a production system consisting of a fully operational satellite constellation plus satellites awaiting launch as a part of the operational system. Any enhancement to the satellites not yet launched will be sole source contract awards. (U) Based on the DoD Space Architect's recommendation, the Service Life Enhancement Program (SLEP) will include additional antenna modifications that increase the capacity of the last four satellites to tactical users by more than 200%. SLEP is on schedule and fully funded.

(U) FY 1996 (\$ in Thousands):

- (U) \$5,477 Continued DSCS mission support activities
- Supported program office operations
- Conducted programmatic tradeoffs and analyses
- Paid performance incentives for development satellites that were still on orbit and operational

Project 2638

1503

Page 1 of 7 Pages

Exhibit R-2 (PE 0303110F)

	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational Sy	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	(Space) PROJECT 2638
- (U) \$28,000 - (U) \$33,477	Start Service Life Enhancement Program (SLEP) modification - Parts characterization and qualification - Procured components to develop modifications for first article insertion - Completed system preliminary design review (PDR) and prepared for system critical design review (CDR) - Designed low noise amplifier (LNA) upgrade to enhance performance and increase capacity for tactical users - Designed satellite bandwidth modification to increase capacity level of less capable DSCS satellites to that of satellites B8 - B14 - Began development of modkits for variable gain step attenuator and channel 5 switch to gimbaled dished antenna (GDA) Total	cement Program (SLEP) modification nd qualification o develop modifications for first article insertion iminary design review (PDR) and prepared for system critical design review (CDR) plifier (LNA) upgrade to enhance performance and increase capacity for tactical users width modification to increase capacity level of less capable DSCS satellites to that of satellites Bi modkits for variable gain step attenuator and channel 5 switch to gimbaled dished antenna (GDA)) sers t of satellites B8 - B14 antenna (GDA)
(U) <u>FY 1997 (\$ in Thousands):</u> – (U) \$4,279 Continue - Support	<u>housands):</u> Continue Defense Satellite Communications System (DSCS) mission support activities - Support program office operations	SCS) mission support activities	
- (U) \$23,000	 Conduct programmatic tradeoffs and analyses Pay performance incentives for development satellites that are still on orbit and operational Continue Service Life Enhancement Program (SLEP) modification Complete system critical design review (CDR) Fabricate and assemble components for first article insertion Continue to develop low noise amplifier (LNA) upgrade to enhance performance and increase capacity for tactical users 	that are still on orbit and operational todification sertion sertion sertion de to enhance berformance and increase canacity for	r factical users
- (U) \$27,279	- Continue to develop satellite bandwidth modification to increase capacity level of less capable DSCS satellites to that of satellites B8 - B14 - Continue to develop modkits for variable gain step attenuator and channel 5 switch to gimbaled dished antenna (GDA) Total	to increase capacity level of less capable DSCS sate enuator and channel 5 switch to gimbaled dished an	llites to that of satellites B8 - B14 tenna (GDA)
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$3,597 Continue - Support	housands): Continue DSCS mission support activities - Support program office operations		
- (U) \$5,300	 Conduct programmatic tradeoffs and analyses Pay performance incentives for development satellites that are still on orbit and operational Continue SLEP modification Conduct final assembly of first article 	that are still on orbit and operational	
- (U) \$1,650 - (U) \$10,547	 Conduct SLEP rework verification test Continue to develop LNA upgrade to enhance performance and increase capacity for tactical users Continue to develop satellite bandwidth modification to increase capacity level of less capable DSCS satellites to that of satellites B8 - B14 Begin integration development for transition of the last two satellites to Evolved Expendable Launch Vehicles (EELVs) Total 	verification test Ad upgrade to enhance performance and increase capacity for tactical users lellite bandwidth modification to increase capacity level of less capable DSCS satellites to that oo tellite bandwidth modification to increase capacity level of less capable DSCS satellites to that oo opment for transition of the last two satellites to Evolved Expendable Launch Vehicles (EELVs)	llites to that of satellites B8 - B14 icles (BELVs)
Project 2638	Pas	Page 2 of 7 Pages	Exhibit R-2 (PE 0303110F)

RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	1
 (U) FY 1999 (\$ in Thousands): (U) \$5,539 Continue Defense Satellite Communications System (DSCS) mission support activities Support program office operations Conduct programmatic tradeoffs and analyses Pay performance incentives for development satellites that are still on orbit and operational Investigate and develop DSCS III performance enhancements (U) \$12,050 Continue transition development of last two satellites to Evolved Expendable Launch Vehicles (EELVs) (U) \$17,589 Total 	CS) mission support activities hat are still on orbit and operational ments Evolved Expendable Launch Vehicles (EELVs)	
Project 2638	Page 3 of 7 Pages	Exhibit R-2 (PE 0303110F)

Project 2638 Proj	RDT&E BUDGET ITEM JUS	TIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	Đ	DATE February 1997	1997
FY 1996 EY 1997 EY 1998 EY 1999 EY 1	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AN 0303110F	D TITLE Def Satellite	Comm Sys (S	1	PROJECT 2638
FY 1996 FY 1997 FY 1998 FY 1999 FY 1	(U) B. Program Change Summary (\$ in Thousands)						
eg Gen Reductions 259 ibus or Other Above Threshold Reprogram 2400 308 11,459 Budget Years Since Final FY 1997 PB 33,477 27,279 10,547 17,589 Summary Explanation: fing: FY98/99 adjustments realign funding with actual program spending requirements. Page 4 of 7 Pages	(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 31,077	FY 1997 24,527 28,127	<u>FY 1998</u> 10,239	<u>FY 1999</u> 6,130		
Summary Explanation: ling: FY98/99 adjustments realign funding with actual program spending requirements. dule: None nical: None Page 4 of 7 Pages	prog	2,400	-589 -259 27.279	308	11,459		
mical: None Page 4 of 7 Pages	(U) Change Summary Explanation: Funding: FY98/99 adjustments realign funding with act	ual program sper	nding requirement				
nical: None Page 4 of 7 Pages	Schedule: None						
Page 4 of 7 Pages	Technical: None						
Page 4 of 7 Pages							
Page 4 of 7 Pages							
Page 4 of 7 Pages							
Page 4 of 7 Pages							
	Project 2638	Pa	ge 4 of 7 Pages		Exhib	t R-2 (PE 0303110F	

RDT&E BUDGET ITEM JI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SE	EET (R	-2 Exhib	it)		DATE Feb	February 1997	260
вирсет Астіviту 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0303110F Def S	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	e Comm	Sys (Sp	ace)	<u>.</u>	PROJECT 2638
(U) C. Other Program Funding Summary (\$ in Thousands)	(spi							Ę	F 1
(U) Missile Procurement * Tracked back to FY76. ** Includes \$13.5 million advanced procurement for SLEP.	96 <u>FY 1997</u> 771 28,766**	FY 1998 76,434	FY 1999 29,587	FY 2000 32,080	FY 2001 24,095	FY 2002 28,571	FY 2003 24,433	Compl 73,500	10tal Cost* 1,619,551
(U) D. Schedule Profile									
(U) Launch DSCS/IABS 6 (Oct 97) (U) Launch DSCS/IABS 7 (Jul 99) (U) Launch DSCS/IABS 8 (May 00) (U) Launch DSCS/IABS 8 (May 00) (U) Launch DSCS/IABS 9 (May 02) (U) Launch DSCS/IABS 10 (May 03)	3 4	다 2	FY 1997 2 3	4 ×	FY 1998 2 3	80 E 4	_	FY 1999 2 3	4 X
(U) SLEP Implementation Study (Mar 95 X X - Jan 96) (U) SLEP Modification Program (Mar 96 X Aug 00) - Aug 000	× × ×	× ×	×	× ×	×	×	*	× ×	×
(U) SLEP FDR (Sep 20) (U) SLEP CDR (Mar 97) (U) GTS Upgrade Completion (Oct 96) (U) EELV Integration (May 98 - Jan 00)	<	× ×				×	×	×	×
Project 2638		Page 5 of 7 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0303110F)	303110F)	
		1507							

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RD	RDT&E PROGRAM EL	3RAM EL	EMENT/PROJECT	ROJECT		COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	1¢		PE NUMBER AN 0303110F	PE NUMBER AND TITLE 0303110F Def S	D TITLE Def Satellite Comm Sys (Space)	mm Sys (an an an an an an an an an an an an an a	2638
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown (S in Thousan	(Sp	FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Basic Program Activities(U) Service Life Enhancement	Basic Program Activities Service Life Enhancement Program (SLEP)	gram (SLEP)		5,477 28,000		4,279 23,000	3,597 5,300	5,539	1 6		
(U) Total				33,477		27,279	1,650 10,547	12,050 17,589	0 6		
(U) B. Budget Acquisition History and Plannin	quisition Histor	y and Plannin	g Information (\$ in Thousands)	(\$ in Thousa	(spu						
Performing Organizations: Contractor or Contrac	nizations: Contract										
Government Performing <u>Activity</u>	Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996*	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Lockheed Martin FFP/AF Miscellaneous CPAF	ent Organizations FFP/AF CPAF	oct 84 TBD	437,500 N/A	437,500 N/A	376,600 124,978	29,977 0	24,579 0	6,697	2,039	4,044	443,936 139,478
Support and Management Organizations Aerospace Corp PO Val	ement Organizat PO Various	ions Various Various	N/A N/A	N/A N/A	11,900	1,000	700	2,200	3,500	0 19,100	13,600
Test and Evaluation Organizations None	Organizations										
* Tracked back to FY86. All other prior year funds	Y86. All other p	rior year funds	s included in the Miscellaneous line for Product Development Organizations.	e Miscellaneou	us line for Pro	duct Developi	nent Organiza	tions.			
Project 2638				P	Page 6 of 7 Pages	iges		Exh	Exhibit R-3 (PE 0303110F)	0303110F)	

RDT&E PROGRAM EL	GRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-3		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	Developmen	ıt	PE NUMBER AND TITLE 0303110F Def S	AND TITLE F Def Sat	PE NUMBER AND TITLE 0303110F Def Satellite Comm Sys (Space)	nm Sys (1		PROJECT 2638
(U) B. Budget Acquisition History and Planning Information Continued	tory and Plannin	g Information Continued (\$	(\$ in Thousands)						
Government Furnished Property:	ty:								
Contract Method/Type Item or Funding Description Vehicle	pe Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Property N/A									
Support and Management Property N/A	> ,								
Test and Evaluation Property N/A									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	44		501,578 19,600	29,977 3,500	24,579 2,700	8,347	14,089	4,844 19,100	583,414 50,600
Total Project			521,178	33,477	27,279	10,547	17,589	23,944	634,014
Project 2638		Pag	Page 7 of 7 Pages			Exhi	ibit R-3 (PE	Exhibit R-3 (PE 0303110F)	
								10110000	

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PE NUMBER: 0303131F

UNCLASSIFIED

PE TITLE: Minimum Essential Emer Comm Network

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	LEET (F	R-2 Exhi	bit)		DATE Fe	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	ıţ		PE NI 030	PE NUMBER AND TITLE 0303131F Minir Network	TITLE Minimum	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	l Emer C			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	13,068	20,842	34,409	29,019	40,239	20,413	9,915	2,759	Continuing	Continuing
2832 VLF/LF System Improvements	13,068	899'6	14,686	11,778	15,607	8,136	9,638	2,759	Continuing	Continuing
4521 DIRECT	0	11,174	19,723	4,747	1,035	279	277	0	0	37,235
4610 MEECN EHF	0	0	0	12,494	23,597	11,998	0	0	0	48,089
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

- Project 4521, DIRECT, was established to consolidate efforts related to DIRECT being or planned for accomplishment in PE 0603851F, ICBM Modernization Dem/Val (BPAC 1024, ICBM C2 Applications), PE 0604851F, ICBM Modernization EMD (BPAC 13C4, Strategic C4 Program), PE 0101213F, Minuteman Squadrons, and PE 0303131F, MEECN (BPAC 2832, VLF/LF Systems Improvements). FY96 DIRECT efforts are reported under BPAC 2832, VLF/LF System Improvements, this PE. Project 2832, VLF/LF System Improvements, received a \$3,900 Below Threshold Reprogramming (BTR) for FY96 that although distributed to the Program Office has not yet been entered into the ABIDES

(U) A. Mission Description and Budget Item Justification

- Current projects include the Modified Miniature Receive Terminal (MMRT) with High Data Rate (HIDAR) transmission mode, the Defense IEMATS Replacement MEECN projects included the High Power Transmit Set (HPTS), Ground Wave Emergency Network (GWEN), and Dual Frequency MEECN Receiver (DFMR). (U) MEECN systems provide assured communications connectivity between the National Command Authority (NCA) and the strategic deterrence forces. Past Command and Control Terminals (DIRECT), and the MEECN EHF capability for the ICBM Launch Control Centers (LCCs).
- (U) This program is in Budget Activity 7 Operational System Development, Research Category 6.6 because it supports work on currently operating systems.

(U) Acquisition Strategy:

(U) Modified Miniature Receive Terminal (MMRT) Program. Program to satisfy both the Air Force and Navy requirements via a joint interest effort with the Air Force Electronics Systems Center, Hanscom AFB, MA as the lead agency. Modifies existing Miniature Receive Terminals (MRTs). EMD contract awarded in FY96

Page 1 of 18 Pages

Exhibit R-2 (PE 0303131F)

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February 1997	u	otion for the ICBM Launch	EXPLOIT R-2 (PE 0303131F)
R-2 Exhibit) DATE	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	arge and Move Out (TACAMO)); and an older of the control of the co	ב-א ווטוואב
RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0303131F Minin Network	erations Center (NOAC)); E-6B (Take Cha Page 2 of 18 Page 2	0000 101 10 700 1
	вирдет Астилту 7 - Operational System Development	for three platforms: the E-4B (Mational Airborne Operations Center (NOAC)); E-5B (Take Change and Move Out (TACAMO)); and an option for the ICBM Launch Control Control Page 2 of 18 Pages Eachiering of Change and Move Out (TACAMO); and an option for the ICBM Launch Page 2 of 18 Pages	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	-ICATION S	SHEET (R-2 Exhibi	Œ.	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE OS	PE NUMBER AND TITLE 0303131F Minin Network	D TITLE Minimum Essential Emer Comm	ssential En	l l
Centers (LCCs). Limited EMD option for MMRT in ICBM LC of Air Force and Navy MMRT units by 2004.	Cs to be exercised	in 2QtrFY97	. Production co	ntract award pl	MRT in ICBM LCCs to be exercised in 2QtrFY97. Production contract award planned for FY00. Complete deployment
(U) DIRECT Program. A contract for EMD was awarded on 12 Jul 96. Production contract to be negotiated at a later date.	! Jul 96. Production	on contract to	be negotiated a	t a later date.	
(U) MEECN EHF Program. Program will provide reliable, secure, and survivable communications between the NCA and ICBM LCCs. It replaces the ICBM Super High Frequency (SHF) Satellite Terminal (ISST) receipt and the ultra high frequency report-back links.	are, and survivable ultra high frequer	e communica ncy report-ba	tions between th ck links.	e NCA and IC	BM LCCs. It replaces the ICBM Super
(U) B. Program Change Summary (\$ in Thousands)	FY 1996 F	FY 1997	FY 1998	FY 1999	Total
(U) Previous President's Budget (U) Appropriated Value (II) Adiisements to Appropriated Value	14,895 15,777	21,902 21,902	11,334	1,914	<u>Cost</u> Continuing
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram	-405 -355 -218	-525 -535			
 d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	-1,731	20,842	23,075 34,409	27,105 29,019	Continuing
(U) Change Summary Explanation: See individual projects.					
	Page 3 of	Page 3 of 18 Pages			Exhibit R-2 (PE 0303131F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SE	HEET (R	-2 Exhil	ojt)		DATE Feb	February 1997	[
BUDGET ACTIVITY 7 - Operational System Development	PE NU 030 Net	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	ITLE Inimum I	Essentia	Emer C			
(U) C. Other Program Funding Summary (\$ in Thousands):								
FY 1996 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To	Total
(U) APPN 16, Other Procurement - AF, BA-07, Electronics and Telecommunications Equip (MEECN, PE 0303131F)	3,488	10,088	1,129	56,534	2,979	2,974	Compi	77,192
Related RDT&E: PE 0603851F, ICBM Dem/Val, and PE 0604851F, ICBM EMD.	F, ICBM EN	Æ.						
(U) D. Schedule Profile: See individual projects.								
	Page 4 of 18 Pages	8 Pages			Exhib	Exhibit R-2 (PE 0303131F)	303131F)	

RDT&E BUDGET IT	EM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IEET (R	-2 Exhi	bit)		DATE FeI	February 1997	197
вирсет астилт 7 - Operational System Development			PE NU 030 Net Net	PE NUMBER AND TITLE 0303131F Minir Network	ritle Iinimum	Essentia	PE NUMBER AND TITLE 0303131F Minimum Essentíal Emer Comm Network	omm	4.11	РКОЈЕСТ 2832
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2832 VLF/LF System Improvements	13,068	899'6	14,686	11,778	15,607	8,136	9,638	2,759	Continuing	Continuing
 (U) A. Mission Description and Budget Item Justification (U) The Modified Miniature Receive Terminal (MMRT) Program will modify existing Miniature Receive Terminals (MRTs) and provide High Data Rate (HIDAR) capability for installation in three platforms: the E-4B, National Airborne Operations Center (NOAC); the E-6B, Take Charge and Move Out (TACAMO); and ICBN Launch Control Centers (LCCs). MRT is a Very Low Frequency/Low Frequency (VLF/LF) receiver already designed, developed, and installed in the B-1 and B-52 bombers. This program will make VLF/LF receivers fully interoperable in all three platforms. (U) HIDAR is a Joint Staff-directed effort to provide a fast and interoperable MEECN mode. This program will develop and test modifications required to retrofit current MEECN platforms with the HIDAR software and firmware. (II) The Improved Emergency Message Automated Transmission System (IEMATS) replacement system, which has been named Defense IEMATS Replacement 	Instification nal (MMRT) Program v the E-4B, National Air Very Low Frequency/Lv receivers fully interoper provide a fast and inter software and firmware.	rogram will ional Airbor uency/Low interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interoperablicand interpretablicand interpretabli	Instification the E-4B, National Airborne Operations Center (NOAC); the E-6B, Take Charge and provide High Data Rate (HIDAR) the E-4B, National Airborne Operations Center (NOAC); the E-6B, Take Charge and Move Out (TACAMO); and ICBM Very Low Frequency/Low Frequency (VLF/LF) receiver already designed, developed, and installed in the B-1 and B-52 receivers fully interoperable in all three platforms. o provide a fast and interoperable MEECN mode. This program will develop and test modifications required to retrofit software and firmware.	ing Miniatun is Center (NV /LF/LF) recoplatforms. CN mode. T	re Receive T OAC); the E eiver already his program	erminals (M6B, Take Cy designed, c	IRTs) and prharge and Meveloped, ar pand test mo	ovide High I fove Out (T/ nd installed i ddifications 1	Data Rate (HACAMO); an in the B-1 an required to requi	

- Command and Control Terminal (DIRECT), is a Strategic Nuclear Command and Control (C2) system directly supporting the Chairman of the Joint Chief Staff (CJCS) and the National Command Authority (NCA). DIRECT will provide all current IEMATS requirements, including the build, release and transmission of Emergency Action Messages (EAM), to allow the CJCS and warfighter to remain responsive to NCA directives. DIRECT will be compatible with the Defense Message System (DMS) when it supplants the automated digital network (AUTODIN).
- (U) High Power Transmit Set (HPTS) was a joint Air Force and Navy Program to provide the E-4 and the E-6 aircraft with an improved and supportable VLF transmission capability. HPTS completed development phase in 2QtrFY95 and procurement for the E-4 is under Departmental review.
- (U) FY 1996 (\$ in Thousands):
- MMRT modification (A- and B-Kits) for E-4B and E-6B, and HIDAR (U) \$6,792
 - HIDAR development program (U) \$800
- IEMATS replacement (a.k.a. DIRECT) (U) \$5,476
- MMRT modification (B-Kit) for ICBM LCCs Total (U) (U) \$13,068

- \$3,900*
- * Approved BTR which has been distributed to Program Office but not yet entered in ABIDES database.

Project 2832

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Exhibit R-2 (PE 0303131F)

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RDT&E BUDGET ITEM JUST	FICATION	N SHEET	TEM JUSTIFICATION SHEET (R-2 Exhibit)	a	DATE Februa	February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303131F Minir Network	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	sential Err		2832
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$5,384 Continue MMRT development - (U) \$2,384 Continuing Evaluation Program (CEP) and Other - (U) \$2,85 Continuing Evaluation Program (CEP) and Other - (U) \$9,668 Total (U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$14,349 Continue MMRT development - (U) \$14,349 Continue MMRT development - (U) \$13,3 Continuing Evaluation Program (CEP) - (U) \$13,3 Continuing Evaluation Program (CEP) - (U) \$11,631 Continuing Evaluation Program (CEP) - (U) \$11,631 Continue MMRT development - (U) \$11,778 Total - (U) \$11,778 Total	nd Other					
	FY 1996*	FY 1997	FY 1998	FY 1999	Total	
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR 	14,895 15,777 -405 -355	10,489 10,489 -286 -535	11,334	1,194	Continuing	
c. Commons of Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget * Does not include \$3,900 FY96 BTR approved and distributed to Program Office but not yet entered into database.	-218 -1,731 13,068 Program Office	9,668 but not yet ente	3,352 14,686 red into database.	10,584	Continuing	
Project 2832	Page	Page 6 of 18 Pages			Exhibit R-2 (PE 0303131F)	31F)
		1516				

RDT&E BUDGET ITEM JUSTIFICAT	TEM JUSTIFICATION SHEET (R-2 Exhibit) DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm 2832 Network
 (U) Change Summary Explanation: Funding: FY96 Funding adjusted for actuals. FY97 funding adjusted for congressio extension, the MMRT initiative, and reductions to fund other AF and DoD priorities. Schedule: MMRT effort for ICBM LCCs has been restructured. Technical: MMRT EMD will develop a common receiver for all three platforms (E-costs. 	unge Summary Explanation: Funding: FY96 Funding adjusted for congressionally-mandated reductions. FY98-03 funding adjusted to reflect the baseline extension, the MMRT initiative, and reductions to fund other AF and DoD priorities. Schedule: MMRT effort for ICBM LCCs has been restructured. Technical: MMRT EMD will develop a common receiver for all three platforms (E-4B, E-6B, and ICBM LCCs) thereby reducing unit and lifetime sustainment costs.
(U) C. Other Program Funding Summary (S in Thousands): Related RDT&E: PE 0604851F, ICBM EMD.	
(U) D. Schedule Profile	
(U) MMRT RFP Release (U) MMRT EMD (U) EMD for Aircraft (U) EMD for ICBM LCCs (Phase 1) (U) EMD for ICBM LCCs (Phase 2) (U) EMD for ICBM LCCs (Phase 2) **Start/Complete **Start/Complete	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Project 2832	Page 7 of 18 Pages Exhibit R-2 (PE 0303131F)
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RDT&	E PRO	RDT&E PROGRAM EL	EMENT/F	EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE F	February 1997	797
вирсет АститY 7 - Operational System Development	ystem D	evelopmen	Ť.		PE NUMBER / 03031311 Network	PE NUMBER AND TITLE 0303131F Minim Network	num Esser	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	Comm		PROJECT 2832
(U) A. Project Cost Breakdown (\$ in Thousands)	reakdown (S in Thousand	(S)	FY 1996*		FY 1997	FY 1998	FY 1999			
	Developmer	nt		8,738	∞	7,741	8,834	7,325	10		
	nent			1,200	9 (311	1,521	1,234	-		
(U) Systems Engineering	ng and Evoluati	io		1,830	.	425	1,124	912	~ 1 16		
	ring Suppor	- III		240	. O	379	451	366			
	eering Supp	ort		470	0	425	820	199	_		
(U) Travel				200	Q	102	380 456	308	~ ~		
						285	2				
(U) Total				13,068	80	899'6	14,686	11,778	~		
* Does not include \$3,900 FY96 BTR approved and distributed to Program Office but not yet entered into database.	000 FY96 B	TR approved a	nd distributed t	o Program Offi	ce but not ye	t entered into	database.				
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	ition Histor	y and Plannin	g Information	(\$ in Thousan	ds)						
Performing Organizations:	ions:										
Contractor or Con Government Me Performing or J	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1996</u>	Budget FY 1996*	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Rockwell CPAF Various Various	t Organ <u>izations</u> CPAF Various	s Aug 92 Various	13,500 n/a	13,500 n/a	13,500 28,381	0 11,768	0 8,856	011,479	9,471	0 Continuing	13,500 Continuing
Support and Management Organizations Various Other	nt Organiza	tions			00	910	527 285	2,107	1,711	Continuing 0	Continuing 285
Test and Evaluation Organizations Various	ganizations				0	390	0	1,100	965	Continuing	Continuing
Project 2832				Pa	Page 8 of 18 Pages	ıges		Exh	Exhibit R-3 (PE 0303131F)	0303131F)	
					1518						

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RDT&	RDT&E PROGRAM EL	MELE	MENT/P	-EMENT/PROJECT COST BREAKDOWN (R-3)	OST BF	REAKDO	WN (R-3		DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Developme	/stem Develop	pment			PE NUMBER AND TITLE 0303131F Minin Network	AND TITLE F Minimu	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	tial Emer	1		PROJECT 2832
(U) B. Budget Acquisition History and Planni	tion History and P	lanning	Information (ng Information Continued (S in Thousands)	Thousands)						
Government Furnished Property:	Property:										
Con Me Item or I Description Vel	Contract Method/Type Award or or Funding Obligation Vehicle Date	d or ation	Delivery <u>Date</u>		Total Prior to FY 1996	Budget FY 1996*	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Property None	operty										
Support and Management Property None	t Property										
Test and Evaluation Property None	erty										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	oment nagement ion				41,881	11,768 910 390	8,856	11,479 2,107 1,100	9,471 1,711 596	Continuing Continuing Continuing	Continuing Continuing Continuing
Total Project					41,881	13,068	899'6	14,686	11,778	Continuing	Continuing
* Does not include \$3,900 FY96 BTR approved and distributed to Program Office but not yet entered into database.	10 FY96 BTR appro	oved and	distributed to	Program Office b	out not yet er	ntered into da	tabase.				
Project 2832				Page 9	Page 9 of 18 Pages			Exhi	Exhibit R-3 (PE 0303131F)	0303131F)	
				-	1519						

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RDT&E BUDGET IT	FEM JUS	TIFICA	TION SI	HEET (F	FEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE	4	100
вирдет Астиитү 7 - Operational System Developmen	#		PE NO 3C	PE NUMBER AND TITLE 0303131F Minin Network	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	Essential	Emer C		PRO. 452	997 PROJECT 4521
COST (\$ in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estímate	Cost to Complete	Total Cost
4521 DIRECT	0	11,174	19,723	4,747	1,035	279	772	0	0	37,235
NOTE: This project was established in Jan 96 to consolidate efforts related to DIRECT currently being or planned for accomplishment in PE 0603851F, ICBM Modernization Dem/Val (BPAC 1024, ICBM C2 Applications), PE 0604851F, ICBM Modernization EMD (BPAC 13C4, Strategic C4 Program), PE 0101213F, Minuteman Squadrons, and 0303131F, MEECN (BPAC 2832, VLF/LF System Improvements). FY96 DIRECT efforts are reported under BPAC 2832, VLF/LF System Improvements, in this PE.	onsolidate eff Applications), VLF/LF Syst	orts related PE 060485; em Improve	to DIRECT (IF, ICBM Mments). FY9	currently be odernization 96 DIRECT	onsolidate efforts related to DIRECT currently being or planned for accomplishment in PE 0603851F, ICBM hyplications), PE 0604851F, ICBM Modernization EMD (BPAC 13C4, Strategic C4 Program), PE 0101213F, Minuteman VLF/LF System Improvements). FY96 DIRECT efforts are reported under BPAC 2832, VLF/LF System Improvements,	d for accomp C 13C4, Stra ported under	olishment in ttegic C4 Pro BPAC 283;	PE 0603851 ogram), PE (2, VLF/LF S	F, ICBM 0101213F, N ystem Impr	finuteman ovements,
(U) A. Mission Description and Budget Item Justification	stification									
(U) The Defense IEMATS Replacement Command and Control Terminals (DIRECT), which is the Improved Emergency Message Automated Transmission System (IEMATS) replacement program, is a Strategic Nuclear Command and Control (C2) system directly supporting the Chairman of The Joint Chief of Staff (CJCS) and the National Command Authorities (NCA). DIRECT will provide for all current IEMATS requirements, including the build, release, and transmission of Emergency Action Messages (EAM) to allow the CJCS and warfighters to remain responsive to NCA directives. DIRECT will be compatible with the Defense Message System (DMS) when it supplants the Automated Digital Network (AUTODIN) and will interface with all other EAM distribution communications systems. An urgent and compelling need to field an IEMATS replacement system no later than second quarter FY99 has been established to insure the orderly closure of AUTODIN Switching Centers (ASC).	mand and Co c Nuclear Col IRECT will p dd warfighters al Network (/	ntrol Termin nmand and or rovide for a to remain ro AUTODIN) o later than o	nals (DIREC Control (C2) Il current IEI esponsive to and will inte	T), which is system dire MATS requi NCA direct rface with a rer FY99 has	the Improve setly supporti irements, incl ives. DIREC Il other EAM	d Emergency ng the Chair luding the bu Y will be con distribution shed to insur-	Wessage A man of The uild, release, mpatible wii communica e the orderly	utomated Ti Joint Chief c and transmi th the Defen: tions system	ransmission of Staff (CJC Staff (System S) and argency System t and tand
(U) FY 1996 (\$ in Thousands):										
(U) \$0 IEMATS Replacement (a(U) \$0 Total	a.k.a., DIRECT) (Funded in BPAC 2832)	T) (Funded	l in BPAC 28	832)						
(U) FY 1997 (\$ in Thousands):										
 (U) \$10,244 DIRECT Engineering and Manufacturing Development (U) \$800 Automated Codebook Module (ACM) (U) \$130 Continuing Evaluation Program (CEP) (U) \$11,174 Total 	d Manufactur odule (ACM) rogram (CEP	ing Develor	ment							
rroject 4521			Page 10 of 18 Pages	18 Pages			Exhibit	Exhibit R-2 (PE 0303131F)	303131F)	
			1520							

15 12	BUDGE! ITEM JUSTIFICATION SHEET (R-Z EXHIBIT)		N-4 EAIIIU	<u>, </u>	February 1997	ry 1997
вирсет Астіviту 7 - Operational System Developmei	Development	PE NUMBER AND TITLE 0303131F Minin Network	λτιτε Minimum E	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	ır Comm	PROJECT 4521
(U) FY 1998 (\$ in Thousands):	<u>(sp</u>					
- (U) \$17,589 Contir - (U) \$2,000 Contir - (U) \$134 Contir - (U) \$19,723 Total	Continue DIRECT Engineering and Manufacturing Development Continue Automated Codebook Module (ACM) Continuing Evaluation Program (CEP) Total	welopment				
(U) FY 1999 (\$ in Thousands):	ds);					
- (U) \$3,609 Contir - (U) \$1,000 Contir - (U) \$138 Contir - (U) \$4,747 Total	Continue DIRECT Engineering and Manufacturing Development Continue Automated Codebook Module (ACM) Continuing Evaluation Program (CEP) Total	velopment				
(U) B. Program Change Summary (S in Thousands)	nary (\$ in Thousands)					
	FY 1996*	FY 1997	FY 1998	FY 1999	Total	
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	t d Value	11,413	0	0	0	
a. Cong Reductions b. SBIR		-239				
 c. Omnibus or Other Above Inreshold Keprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	e i irresnoid Keprogram gramming rs Since FY 1997 PB sident's Budget	11,174	19,723 19,723	4,747 4,747	41,088	
- Funded in VLF/LF System In	* - Funded in VLF/LF System Improvements (BPAC 2832, this PE).					
Project 4521	Pag	Page 11 of 18 Pages		Ш	Exhibit R-2 (PE 0303131F)	31F)

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RDT&E BUDGET ITEM JUSTI	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	
(U) Change Summary Explanation: Funding: DIRECT funded in VLF/LF System Improvemen fund other AF and DoD priorities.	Inge Summary Explanation: Funding: DIRECT funded in VLF/LF System Improvements (BPAC 2832, this PE) for FY96. FY98-03 funding adjusted for baseline extension and reductions to fund other AF and DoD priorities. Schadule: 100 NIT 20th EV00	seline extension and reductions to
Technical: None	Schrödisc. 100 101 200 1 20 necessary to eliminate dependence on AUTODIN Switching Centers (ASCs) scheduled for closure. Technical: None	re.
(U) C. Other Program Funding Summary (\$ in Thousands):		
(U) APPN 16, Other Procurement - AF, BA-07, Electronics and Telecommunications Equip (MEECN, PE 0303131F)	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 3,488 10,088 1,129	<u>FY 2003</u> To Total <u>Compl</u> <u>Cost</u> 0 14,705
Related RDT&E: PE 0603851F, ICBM Dem/Val.		
(U) D. Schedule Profile		
(U) Contract Award (U) Development Test and Evaluation (U) Operational Test and Evaluation (U) Procurement (U) Required DIRECT IOC	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	FY 1999 X X X X X X X X X X X X X X X X X X
Project 4521	Page 12 of 18 Pages	Exhibit R-2 (PE 0303131F)
	1522	

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LON	RDT&E PROGRAM E	3RAM EL	EMENT/	PROJEC	LEMENT/PROJECT COST BREAKDOWN (R-3)	BREAKD	OWN (R-	3)	DATE F	February 1997	260
BUDGET ACTIVITY 7 - Operational System Developm	l System D	evelopme	ent		0303131 Network	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	num Esser	ıtial Emer	Сотт	4	РRОЈЕСТ 4521
(U) A. Project Cost Breakdown (\$ in Thousands)	it Breakdown	(\$ in Thousan	(s)	FY 1996*		FY 1997	FY 1998	FY 1999	ć		
(U) Primary Hardware Development(U) Software Development(U) Systems Engineering(I) Technical Data	are Developme opment æring	nt				2,793 4,016 1,258 85	5,310 7,556 2,391 161	1,274 1,807 573 39	4 / 8 6		
(U) Development Test and Engineering (U) Government Engineering Support (U) Program Management Support (U) Travel	est and Engine Igineering Supp gement Support	ering oort				121 2,008 811 82 11 174	230 2,379 1,541 155 19 723	55 592 370 370 37	,		
* - Funded in VLF/LF System Improvements (BPAC 2832, this PE). (U) B. Budget Acquisition History and Planning Information (\$	F System Impruisition Histor		PAC 2832, this PE). ing Information (\$ in Thousands)	PE). n (\$ in Thou							
Performing Organizations:	zations:				!						
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to <u>FY 1996</u> *	Budget FY 1996*	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations GTE National Security Agency (NSA)	nt Organization	ω]					7,352 800	15,418	3,693	066	27,453
Support and Management Organizations Various	ement Organiza	tions					2,901	4,075	666	109	8,576
Test and Evaluation Organizations Various	Organizations						121	230	55	0	406
Project 4521					Page 13 of 18 Pages	sage _a		Exh	Exhibit R-3 (PE 0303131F)	0303131F)	
					Ş						

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JT&E PROGRAM ELI	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	EAKDO	WN (R-		DATE	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303131F Minin Network	AND TITLE F Minim	ım Essen	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network		4	PROJECT 4521
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	Information Continued (\$	in Thousands)						
Government Furnished Property:								
Contract Method/Type Award or Item or Funding Obligation I Description Vehicle Date	Delivery <u>Date</u>	Total Prior to FY 1996*	Budget FY 1996*	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
<u>Product Development Property</u> None								
Support and Management Property None								
Test and Evaluation Property None								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				8,152 2,901 121	15,418 4,075 230	3,693 999 55	990	28,253 8,576 406
Total Project * - Funded in VLF/LF System Improvements (BPAC 2832, this PE).	2832, this PE).			11,174	19,723	4,747	1,591	37,235
Project 4521	Page	Page 14 of 18 Pages	S		Exhi	Exhibit R-3 (PE 0303131F)	0303131F)	

RDT&E BUDGET IT	EM JUS	STIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	R-2 Exhi	bit)		DATE Fe	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development			Net Net	PE NUMBER AND TITLE 0303131F Minin Network	TITLE Minimum	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	l Emer C			РРОЈЕСТ 4610
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4610 MEECN EHF	0	0	0	12,494	23,597	11,998	0	0	0	48,089
(U) A. Mission Description and Budget Item Justification	stification									
(U) This effort will provide reliable, secure, and survivable communications in the extremely high frequency (EHF) for the command and control of the warfighting forces of the United States. Specifically, this effort is currently focused on replacing the satellite-based, ground communication links with the ICBM forces. It replaces	, and survivable co	e communicantly focused	and survivable communications in the extremely high frequency (EHF) for the command and control of the warfighting effort is currently focused on replacing the satellite-based, ground communication links with the ICBM forces. It replac	extremely higher the satellite	gh frequency	y (EHF) for and commun	the comman ication links	d and contro	l of the warf BM forces.	ighting It replaces

- the ICBM Super High Frequency (SHF) Satellite Terminal (ISST) receipt, providing force direction/execution, and the ultra high frequency (UHF) report-back links. ISST relies upon the Single Channel Transponder (SCT) package aboard the Defense Satellite Communications System (DSCS) which is expected to be non-operational by 2003. Extending the use of DSCS is not practical. This second survivable link is required to meet the dual media communication link requirements to the strategic forces.
- (U) FY 1996 (\$ in Thousands): Program starts in FY99.
- (U) FY 1997 (\$ in Thousands): Program starts in FY99.
- (U) FY 1998 (\$ in Thousands): Program starts in FY99.
- (U) FY 1999 (\$ in Thousands):
- EHF engineering and manufacturing development Total (U) \$12,494 (U) \$12,494 1 1

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Project 4610

Exhibit R-2 (PE 0303131F)

RDT&E BUDGET ITEM JUST	TEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhil	j <u>ë</u>		DATE Febr	February 1997	6
вирбет Астиитү 7 - Operational System Development	later	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network	TITLE Minimum I	ssential	Emer C	1	1 4	PROJECT 4610
(U) B. Program Change Summary (\$ in Thousands)								
	FY 1996	FY 1997	FY 1998	FY 1999	61	Total		
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. Cong 	0 0	0 0	0	J	0	Cost		
 c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 	0	0	0	12,494		48,089		
(U) Change Summary Explanation: This program initiated in resp	initiated in response to DoD direction with RDT&E commencing in FY99.	ction with RDT	kE commenci	ng in FY99.				
(U) C. Other Program Funding Summary (S in Thousands):								
FY 1996	FY 1997 FY 1998	998 FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To	Total
(U) APPN 16, Other Procurement - AF, BA-07, Electronics and Telecommunications Equip (MEECN, PE 0303131F)				56,534	2,979	2,974	Compl 0	Cost 62,487
Related RDT&E: None.								
(U) D. Schedule Profile								
(U) Contract Award	4	FY 1997 2 3	4	FY 1998 2 3	4	1 2 X	FY 1999 2 3 X	4
Project 4610	Page 1	Page 16 of 18 Pages			Exhibil	Exhibit R-2 (PE 0303131F)	3131F)	
		, 60						

RDT&E PR	RDT&E PROGRAM EI		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	3REAKD	OWN (R-	3)	DATE	February 1997	266
вирбет астіvіту 7 - Operational System Developme	ո Developme	nt		0303131 Network	PE NUMBER AND TITLE 0303131F Minim Network	num Essel	PE NUMBER AND TITLE 0303131F Minimum Essential Emer Comm Network			РВОЈЕСТ 4610
(U) A. Project Cost Breakdown (\$ in Thousands)	wn (\$ in Thousan	<u>(sp</u>								
			FY 1996		FY 1997	FY 1998	FY 1999	6		
 (U) Primary hardware development (U) Software development (U) Systems engineering (U) Development Test and Evaluation (U) Contractor engineering support (U) Program management support 	nent luation port ort						5,876 1,315 1,800 252 275 1,800	2 2 0 2 8		-
	1pport						580 580 596 12,494	0 9 4		
(U) B. Budget Acquisition History and Planni	story and Planni	ng Information (\$ in Thousands)	ı (\$ in Thousaı	(spu						· · · · · · · · · · · · · · · · · · ·
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	pe Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations TBD	<u>ions</u> 2QtrFY99			0	0	0	0	8,991	TBD	TBD
Support and Management Organizations TBD TBD TBD	<u>nizations</u> TBD			0	0	0	0	3,251	TBD	TBD
Test and Evaluation Organizations TBD TBD	<u>ns</u> TBD			0	0	0	0	252	TBD	TBD
Project 4610			Pa	Page 17 of 18 Pages	sagr		Exh	Exhibit R-3 (PE 0303131F)	0303131F)	
				1527						

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Operational System Development B. Budget Acquisition History and Planning I rnment Furnished Property: Contract Method/Type Award or or Funding Obligation Ciption Vehicle Date Let Development Property						_		707
		PE NUMBER AND TITLE 0303131F Minin Network	ND TITLE MINIMO	D ТІТІЕ Minimum Essential Emer Comm	tial Emer		PROJ	PROJECT 4610
contract Contract Method/Type Award or or Funding Obligation Cot Development Property Out and Management Property	formation Continued (S in	Thousands)						
Contract Method/Type Award or or Funding Obligation ription Vehicle Date Let Development Property ort and Management Property								
Product Development Property TBD Support and Management Property	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Support and Management Property								
TBD								
Test and Evaluation Property								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation						8,991 3,251 252	TBD TBD	TBD TBD
Total Project						12,494	35,595	48,089
Project 4610	Page	Page 18 of 18 Pages			Exhi	Exhibit R-3 (PE 0303131F)	0303131F)	

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PE NUMBER: 0303140F

UNCLASSIFIED

PE TITLE: Information Systems Security Program

	RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	1-2 Exhi	bit)		DATE Fe	February 1997	267
BUDGET ACTIVITY 7 - Operation	вирает Астіvіту 7 - Operational System Development	ţ		PE N	PE NUMBER AND TITLE 0303140F Inform	TITLE Mormatic	on Syster	ns Secur	PE NUMBER AND TITLE 0303140F Information Systems Security Program	am	
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Progi	Total Program Element (PE) Cost	10,381	6,548	5,298	6,589	6,337	5,634	5,391	5,515	Continuing	TBD
7820 Computer	7820 Computer Security RDT&E: Firestarter	10,381	6,549	3,561	4,550	5,044	5,634	5,391	5,515	Continuing	TBD
4585 Cryptologic 2020	2020	0	0	1,737	2,039	1,293	0	0	0	TBD	TBD
Quantity of	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

This program provides the capability to protect and defend USAF Command, Control, Communications, and Intelligence, Surveillance, and Reconnaissance (C4ISR) and Weapon Systems from IW attacks and recover from those attacks. The program element consists of two complementary projects. The computer security project directs the R&D of Information Protection technology and tools to defend AF C4ISR systems, with emphasis on computer and network systems security, risk management, and multiadequate access control, integrity, assured services and meets warfighter's requirements. The Cryptologic 2020 project comprises R&D for the Air Force Electronic Key Management System (AFEKMS). The AFEKMS, in concert with NSA's EKMS, provides a secure and flexible capability for the electronic generation, distribution, and management of key material, voice callwords, and Communications Security (COMSEC) publications for the F-22. AFEKMS replaces the existing physical distribution level systems security. This project focuses on protection and defense of the Air Force, Joint, National, and Defense Information Infrastructures. This R&D provides and management system providing COMSEC KEYS for USAF Information Protection. The Air Force unique AFEKMS software is required because the production software developed by NSA can not provide the capabilities to distribute the system keys in the format needed by the F-22 Mission Support System. (U) A. Mission Description and Budget Item Justification

This program is in budget activity 7 - Operational System Development, because it addresses the development and transition of information security, protection and defensive capabilities and technologies to protect, detect, respond to, and defend against information attack by new and emerging IW threats

Page 1 of 14 Pages

Exhibit R-2 (PE 0303140F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R	-2 Exhibit		DATE February 1997
вирвет Астіvітץ 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Infor	⊓⊓LE nformation	Systems Se	PE NUMBER AND TITLE 0303140F Information Systems Security Program
(U) B. Program Change Summary (\$ in Thousands)				
esident's Budget 1 opriated Value	FY 1997 6,900 6,900	FY 1998 4,978	$\frac{\text{FY 1999}}{4,581}$	Total <u>Cost</u> TBD
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (7)	(182)			
e. Kescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 President's Budget	6,548	320 5,298	2,008	TBD
 (U) Change Summary Explanation: Funding: Funding: FY96: Actual reductions (thousands) consist of general Congressional reductions, SBIR, BTR, and rescissions. FY97: Actual reductions (thousands) consist of general Congressional reductions and RDT&E for innovative small business research. FY98 and FY 99: Funds for this on-going project were converted from 3080 to 3600 within this program element. 	ssional reductions, S tovative small busine ed from 3080 to 360	BIR, BTR, and sss research.	rescissions. FY9	7: Actual reductions (thousands)
Schedule: Delays completion and start of numerous Firestarter Project research efforts until FY99, including such as planned emissions security, communications security, computer security. Curtails the capability to keep pace with new and emerging IW threats and meet mission needs. Delays the insertion of essential technology into AF systems. Extends the window of vulnerability that would allow an adversary to exploit and degrade AF and other warfighting units in performing their missions. Specific impacts are: delays transition of intrusion detection technology into the Base Network Control Center (BNCC) multi-level security and secure distributed above automation until FY99. Technical: None.	earch efforts until FY with new and emergulnerability that wou npacts are: delays truted operations for automation until FY	'99, including signing IW threats sid allow an advansition of intru the F-22 Mission 99.	uch as planned er and meet missior ersary to exploit sion detection tee n Planning Systen	umerous Firestarter Project research efforts until FY99, including such as planned emissions security, communications tails the capability to keep pace with new and emerging IW threats and meet mission needs. Delays the insertion of ems. Extends the window of vulnerability that would allow an adversary to exploit and degrade AF and other ning their missions. Specific impacts are: delays transition of intrusion detection technology into the Base Network level security and secure distributed operations for the F-22 Mission Planning System, and Secure Data Handling System Delays start of voice callword automation until FY99.
Pas	Page 2 of 14 Pages		ĒX	Exhibit R-2 (PE 0303140F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	rity Program
:(U) C. Other Program Funding Summary (\$ in Thousands) Related RDT&E:		
(U) For research and development efforts pursued under Program Element (PE) 33140F there is complementarywork being performed under PE 35167G which addresses the development of generic technology in the area of information security. Products from PE 33140F transition to other agencies through PE 64740F Computer Resource Management Technology Transition	40F there is complementarywork being performed un from PE 33140F transition to other agencies through	nder PE 35167G which addresses I PE 64740F Computer Resource
(U) D. Schedule Profile: See Individual Project Schedules		
Page 3	Page 3. of 14 Pages Exhibi	Exhibit R-2 (PE 0303140F)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	Dit.)		DATE Fet	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	ı,		PE NI 030	PE NUMBER AND TITLE 0303140F Information Systems Security Program	ппсе nformatio	n Syster	ns Secur	ity Progr		PROJECT 7820
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
7820 Computer Security RDT&E: Firestarter	10,381	6,549	3,561	4,550	5,044	5,634	5,391	5,515	5,515 Continuing	TBD

(U) A. Mission Description and Budget Item Justification

management and multi-level system security. With the advent of the information age, the battlefield commander's ability to fight and win becomes more dependent Communications, Computer and Intelligence (C41) Systems from Information Warfare (IW) Cyber attacks and to recover from those attacks. As the USAF single demanded increasing reliance on these advanced information systems with global accessibility. The susceptabilities inherent in such reliance and accessibility has upon the availability, timeliness, and integrity of the information flow/processing capability available. The requirement for global presence and global power has This program directs the Research & Development (R&D) of Information Protect technology/tools to provide the capability to defend USAF Command, Control. manager for Information Protect (R&D), this program directs C41 system Information Protect R&D with emphasis in computer/network systems security, risk heightened the awareness that the National Information Infrastructure (NII) and Defense Information Infrastructure (DII) must be protected against attack.

dial-up connections, and DSNET, this technology will provide the capability of collecting, integrating and displaying threat, vulnerability, and system data indicating detection and characterization of attack. As adversaries may gain access to critical US information systems through a variety of means, including the Internet, other commercial enterprises in order to transition this important technology to enterprise networks which may become launching places for IW attacks. These launching developed to prevent, contain and recover from such attacks. It is also imperative that these information protection mechanisms be developed in conjunction with Emphasis is therefore placed on R&D areas that provide deterrence of attack through cyberspace surveillance, Tactical Indications & Warning (I&W), intrusion places provide opportunities to monitor networks, alter critical information, deny or degrade service, and destroy penetrated systems, within the DII and the NII. an attack is about to take place and/or is taking place. As an integral part of a Joint Information Protection architecture, countermeasure technology will also be

Development, Research category 6.7, because it addresses the development and transition of communications and computer network Information Protection and risk Also, R&D is required in automated risk management/vulnerability assessment processes because the Air Force does not currently have the automated assessment, planning, and decision tools to support prudent Information Operations risk management. Summarizing, this program is in budget activity 7-Operational System management technologies/tools in order to protect, detect, defend, and respond to information attack against Base Network Control Centers (BNCCs) and the National/Defense Information Infrastructure.

Project 7820

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Exhibit R-2 (PE 0303140F)

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	RD	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	997
BUDGET ACTIVITY 7 - Operation	nal Sy	- Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program		PROJECT 7820
(C) FY 199 - (C) (C) (C) (C) (C) (C) (C) (C) (C) (C)	996 (\$ in T	FY 1996 (\$\\$\text{in Thousands}\): (U) \$3966 Continue development of Air Force Electronic Key Management System (U) \$1500 Complete development of Trusted Rubix (U) \$719 Complete Joint Service secure distributed computing experiments (U) \$450 Initiate development of analysis tools for Base Information Protection (U) \$410 Develop security architecture for Air Force Mission Support System (U) \$1363 Continue development of technology for adaptive voice/data networks (U) \$1324 Develop network security interfaces for Theater Battle Management (U) \$649 Continue development of security interfaces for Theater Battle Management (U) \$10,381 Total	nagement System speriments tion Protection pport System 3/data networks Management r Battle Management		
(U) FY 1997 (U) (C) (C) (C) (C) (C) (C) (C) (C) (C) (C	\$230 \$245 \$545 \$545 \$710 \$1100 \$250 \$150 \$160 \$256 \$460 \$2618	FY 1997 (\$ in Thousands): (U) \$230 Initiate development of secure data handling system for F-22 Integrated Weapon (U) \$545 Develop mechanisms to protect databases from IW attacks (U) \$545 Continue development of security analysis tools for Base Information Protection (U) \$710 Initiate development of secure interoperable distributed computing system (U) \$1100 Prototype adaptive voice/data networks (U) \$150 Initiate effort to develop technology for secure distributed collaborate planning (U) \$150 Initiate effort to transition DARPA intrusion detection technology to Air Force II (U) \$150 Initiate effort to demonstrate INFOSEC for Air Force Mission Support System (U) \$56548 Total	ousands): Initiate development of secure data handling system for F-22 Integrated Weapon System (IWS) Data Base Develop mechanisms to protect databases from IW attacks Continue development of security analysis tools for Base Information Protection Initiate development of secure interoperable distributed computing system Prototype adaptive voice/data networks Initiate effort to develop technology for secure distributed collaborate planning Initiate effort to transition DARPA intrusion detection technology to Air Force Information Warfare Center (AFIWC) Initiate effort to demonstrate INFOSEC for Air Force Mission Support System Complete development of Air Force Electronic Key Management System	VC)	
(U) FY 1998 - (C)	8 (\$ in The state of the state	FY 1998 (\$\$ in Thousands): (U) \$430 Continue development of secure interoperable distributed computing system (U) \$430 Prototype security analysis tools for Base Information Protection (U) \$430 Continue effort to transition DARPA intrusion detection technology to AFIWC (BNCC/BIP) (U) \$430 Continue effort to transition INFOSEC technology into Base Network Control Center (U) \$430 Continue development of secure distributed collaborative planning system (U) \$550 Continue investigation of techniques for commercial software evaluation (U) \$851 Develop prototype of secure wrapper to protect COTS software (U) \$3,561 Total	ed computing system Protection n technology to AFIWC (BNCC/BIP) Base Network Control Center ve planning system ftware evaluation software		
Project 7820		Pag	Page 5 of 14 Pages Exhibit R	Exhibit R-2 (PE 0303140F)	

	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Developme	stem Development	PENUMBER AND TITLE 0303140F Information Systems Security Program	Security Program	PROJECT 7820
(U) FY 1999 (\$ in Thousands) (U) \$256 Continue (U) \$770 Continue (U) \$774 Develop (U) \$744 Develop (U) \$510 Complete (U) \$500 Initiate et (U) \$500	Inousands): Continue development of secure data handling system for F-22 IWS DB Continue development of secure interoperable distributed computing system Continue development of technology for self-healing network system Continue development of technology for self-healing network system Complete effort to transition DARPA intrusion detection technology to AFIWC Complete effort to transition secure wrapper technology into air Force systems Initiate effort for automatic capability to trace source of intrusions Total	for F-22 IWS DB ted computing system tetwork system tion on technology to AFIWC Base Network Control Center nto air Force systems if intrusions		
Project 7820	Page	Page 6 of 14 Pages	Exhibit R-2 (PE 0303140F)	

RDT&E BUDGET ITEM	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEE	T (R-2 Ex	nibit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBE 030314	PE NUMBER AND TITLE 0303140F Information	tion Systems S	PENUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT 7820
(U) B. Program Change Summary (\$ in Thousands)	71					
(U) Previous President's Budget (FY97)(U) Appropriated Value	FY 1996 11,261 11,261	FY 1997 6,900 6,900	FY 1998 4,978	FY 1999 4,581	Total <u>Cost</u> TBD	
(U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Below Threshold Reprogramming d. Rescissions	(414) (236) (7) (223)	(182)				
 (U) Adjustments to Budget Years Since FY 1997 PB a. Program execution decisions b. Small business RDT&E 		(170)	(1,400)		TBD	
c. Other AF requirements (U) Current Budget Submit/FY98 PB	10,381	6,548	(17) \$3,561	(31) 4,550	TBD	
 (U) Change Summary Explanation: Funding: FY96: Actual reductions (thousands) consist of general Congressional reductions, SBIR, BTR, and rescissions. 	consist of general Congre	ssional reduct	ions, SBIR, BTR	, and rescissions.		
Schedule: Delays completion and start of numerous Firestarter Project research efforts until FY99, including such as planned emissions security, communications security, computer security. Curtails the capability to meet mission needs. Delays the insertion of essential technology into AF systems. Extends the window of vulnerability that would allow an adversary to exploit and degrade AF and other warfighting units in performing their missions. Specific impacts are: delays transition of intrusion detection technology into the BNCC, multi-level security and secure distributed operations for the F-22 Mission Planning System, and Secure Data Handling System security for the distributed AOC.	ous Firestarter Project resility to meet mission need leersary to exploit and de ction technology into the rstem security for the dist	earch efforts u is. Delays the grade AF and BNCC,multi-I	until FY99, incluc insertion of esse other warfighting evel security and	ling such as planned ntial technology into g units in performing secure distributed op	emissions security, commu AF systems. Extends the their missions. Specific serations for the F-22 Miss	inications ion
Technical: FY98: Adjustments deletes critical analysis, assessment, and decision support tools for Defensive IW and F-22 software applications	issessment, and decision s	support tools f	or Defensive IW	and F-22 software ap	plications	
Project 7820	Pa	Page 7 of 14 Pages	ies	9	Exhibit R-2 (PE 0303140F)	-)
		1535				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit) DATE February 1997	, 1997
BUDGET ACTIVITY 7 - Operational System Development	ystems Security Pr	PROJECT 7820
(U) C. Other Program Funding Summary (\$ in Thousands)		
Not Applicable		
Project 7820 Page 8	Page 8 of 14 Pages Exhibit R-2 (PE 0303140F)	E
UNCLA	UNCLASSIFIED	

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT / Program 7820
FY96	FY97 FY98	!
(U) Requirements Review Board (U) Secure x.500 Directory Server (U) AFMSS Security Architecture (U) BNCC INFOSEC Transition (U) Adaptive Voice/Data Network Demonstrations (U) Secure Wrapper Development (U) Self-Healing Network Demonstration (U) Secure Interoperable Distributed (U) Secure Interoperable Distributed (U) Secure Interoperable Distributed (U) Trusted Rubix (U) Trusted Rubix (U) Trusted Rubix (U) Treater Battle Management Secure Interfaces		- ×
Project 7820	Page 9 of 14 Pages	Exhibit R-2 (PE 0303140F)

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	1-2 Exhil	bit)		DATE Fet	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	בַּ		PE NI 030	PE NUMBER AND TITLE 0303140F Infor	PENUMBER AND TITLE 0303140F Information Systems Security Program	n Systen	ns Secur	ity Progr		РКОЈЕСТ 4585
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4585 Cryptologic 2020	0	0	1,737	2,039	1,293	0	0	0	TBD	TBD
(U) A. Mission Description and Budget Item Justification The Cryptologic project consists of the Ard Froce Electronic Key Management System (AFEKMS). This project was transferred from 3080 in PE 33140F to 300 to 3040 to 30	ustification ree Electronic Key Management System (AFEKMS). This project was transferred from 3080 in PE 33140F to 3600 in a rew better because these efforts were previously e funds within the same Program and appropriation. This project is not a new start because these efforts were previously e funds within the same Program Element designation. During the FY98 POM, these funds were converted from 3080 and FKEMS, in concert with NSA's EKMS, provides a secure and flexible capability for the electronic generation, csy material, voice callwords, and Communications Security (COMSEC) publications for the F-22 and all AF weapon ideal distribution and management system providing USAF Information Protection. Information Protection emphasizes usted computing and information integrity. AFEKMS is a three tier system structured in a hierarchical arrangement. Tretailly to distribution network and tier 3 comprises the "retail locations" where keying material leaves EC Equipment (EICE),—the consumer. If (COTS) computers and software, contractor developed application software, Government furnished equipment (GFE) EC Managements Software (LCMS). Also, USAF developed user application software (UAS) is necessary for unique equirements of EICE for other airborne platforms. The F-22 platform employs KOV-5 modules and uses three types of Firefly session keys and parameters). Using a Daal Transfer Device (DTD), these keys are loaded directly into the y process. The F-22 employs a unique process for getting cryptographic keys into the KOV-5 onboard the F-22 platforn an not provide the capabilities to distribute the system keys in the format needed by the F-22 Mission Support System.	E Key Mana RDT&E pro 1 the same F no concert wo voice callux on and man ing and inft insumer." cap omprises that (EICE), the Softwar of EICE for no keys and effect on the capabile of the	gement Systigram and ap frogram and ap frogram Elen rith NSA's El ords, and Cor agement systimation interpolative of e distribution the consume (LCMS). A other airborn I parameters) loys a unique lities to distribute distribute to distribut	em (AFEKN propriation. nent designa nent designa munication munication tem providin grity. AFEk stribute, man n network an r. r Using a D. e process for ibute the sys	rife the proper RDT&E program and appropriation. This project was transferred from 3080 in PE 33140F to 36 to the proper RDT&E program and appropriation. This project is not a new start because these efforts were previor funds within the same Program Element designation. During the FY98 POM, these funds were converted from 5 funds within the same Program Element designation. During the FY98 POM, these funds were converted from 5 FKEMS, in concert with NSA's EKMS, provides a secure and flexible capability for the electronic generation. AFKEMS, in concert with NSA's EKMS, provides a secure and flexible capability for the electronic generation. AFKEMS and computing and management system providing USAF Information Protection. Information Protection emphasisted computing and information integrity. AFEKMS is a three tier system structured in a hierarchical arrangementaller of comparing and information network and tier 3 comprises the "tetail locations" where keying material letter EUED;—the consumer. (CCOTS) computers and software, contractor developed application software, Government furnished equipment (and Management Software (LCMS). Also, USAF developed user application software (UAS) is necessary for uniquirements of EICE for other airborne platforms. The F-22 paltform employs KOV-5 modules and uses three typerical parameters? Using a bata Transfer Device (DTD), these keys are loaded directly into I process. The F-22 employs a unique process for getting cryptographic keys into the KOV-5 modules and uses three typeroess. The F-22 employs a unique process for getting cryptographic keys into the KOV-5 onboard the F-22 plan in not provide the capabilities to distribute the system keys in the format needed by the F-22 Mission Support System Reys in the format needed by the F-22 Mission Support System Reys in the format needed by the F-22 Mission Support System Reys in the format needed by the F-22 Mission Support System Reys and parameters.	is not a new is not a new ithe FY98 P and flexible c COMSEC) promation Pro- se tier system ount for COI orises the "re- latform empl Device (DTI tographic ke the format ne	sterred from start becau OM, these file apability for the cetion. In fection. In fection. In the cetion. In the cetion of the ce	n 3080 in PE se these effo unds were cc r the electron or the F-22 cormation Profin a hierarch ng material. s" where key modules and sare loaded (OVAS) is nec modules and sare loaded (OV-5 onbo F-22 Missic	E 33140F to orts were pre- onverted fro- nic generation and all AF wotection emplical arrange Tier 1 insteadying material aying material arrange and uses three and uses three and the F-22 on Support \$\empirical{Support}\$	3600 in viously an 3080 to m, was it was it was it was it was it (GFE) mique bypes of o the cothe it platform. System.
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Project 4585

Exhibit R-2 (PE 0303140F)

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
вирбет Аститү 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT
(U) FY 1998 (\$ in Thousands): - (U) \$1487 Continue LCMS application software development (F-22) - (U) \$250 Continue DTD software Development - (U) \$1,737 Total	((
 (U) FY 1999 (\$\frac{1}{8}\$ in Thousands): (U) \$250 Initiate Voice Callword software development (U) \$1489 Continue LCMS application software development (F-22) (U) \$300 Continue DTD software development and system integration (U) \$2,039 Total 	tion	
Project 4585	Page 11 of 14 Pages Exhibit R-2 (PF 0303440F)	13140F)

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RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE February 1997	y 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303140F Infor	D TITLE Information	Systems Se	PE NUMBER AND TITLE 0303140F Information Systems Security Program	PROJECT 4585
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY 1997 President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Cone Reductions	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	Total <u>Cost</u> TBD	
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	٥	٥	, ,	6	e e	
(U) Adjustification to Dauget Teats Stiffer 1997 FD a. Realignment of Cryptologic 2020 project	>	D	3,230	7,050	180	
b. Other AF requirements(U) Current Budget Submit/FY98 PB	0	0	(13) 1,737	(11) 2,039	TBD	
	,	;				
Project 4585	Page	Page 12 of 14 Pages		Ú	Exhibit R-2 (PE 0303140F)	(OF)
		1540	·			

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997	7 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	РRОЈЕСТ 4585
(U) Change Summary Explanation:		
Funding: FY98 and FY99: \$3.25 million (FY98) and \$2.05 million (FY99) transfered from 3080 funds in the cryptographic key material for the F-22 and voice callword automation. FY98: A \$1.5 million reduction assesed to this project due internal budget realignment.	FY98 and FY99: \$3.25 million (FY98) and \$2.05 million (FY99) transfered from 3080 funds in this PE to develop application software that would manage and distribute cryptographic key material for the F-22 and voice callword automation. FY98: A \$1.5 million reduction assesed to this project due internal budget realignment.	d distribute
Schedule: FY98: Delays Voice Callword Automation project until FY99.		
Technical: None		
(U) C. Other Program Funding Summary (\$ in Thousands)		
Project 4585	Page 13 of 14 Pages Exhibit R-2 (PE 0303140F)	Ę)
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RDT&E BUDGET ITEM JUSTIFICATI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303140F Information Systems Security Program	rity Program 4585
(U) D. Schedule Profile		
(U) Requirements Review Board X (U) Initiate Voice Callword Development (U) Complete F-22 UAS Development (U) Initiate other LCMS UAS software Development (U) Initiate DTD UAS Development (U) Complete Voice Callword Software (U) Complete Voice Callword Software		1 2 3 4 X X X X X X X X X X X X X X X X X X
Project 4585	Page 14 of 14 Pages Exhibit	Exhibit R-2 (PE 0303140F)

PE NUMBER: 0303141F

UNCLASSIFIED

PE TITLE: Global Combat Support System

RDT&E BUDGET IT	EM JUS	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION S	JEET (R	t-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0303141F Globa	PE NUMBER AND TITLE 0303141F Global Combat Support System	mbat Su	pport Sy	stem	ā.	PROJECT
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
GCSS-AF (BLSM II)	*062'6	14,543	20,894	18,334	20,225	21,926	20,657	23,225	ТВО	ТВО
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
יין יין אינער מיינון אינערמיינין אינערמיינין אינערמיינין אינער אינערמיינין אינערמיינין אינערמיינין אינער אינערמיינין אינער אייער אינער איי	יט הת ייי נייי	OOCION L.C.		Α,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	T. T. D.	T.	EV.07 2.4	1.1: PF 0200710F 1.6 M 1. P TL. FV07 1 PAT 9. F 6 1	O.T. Ganding	22.46.0

The FY96 RDT&E funding for this project is located in PE 0308610F, Information Management Automation Program. The FY97 and outyear RDT&E funding for the same project has been transferred from PE 0306810F to PE 0303141F, Global Combat Support System - Air Force. Because the FY96 DoD Appropriations Act directed GCSS-AF to be RDT&E funded and because of the high interest in this program, the GCSS-AF program was broken out from PE 0308610F into this separate program element.

(U) A. Mission Description and Budget Item Justification

The mission of GCSS-AF is to be an umbrella program for modernizing combat support information systems that are responsive during wartime and peacetime. This will be accomplished through:

- (1) developing, procuring, and refreshing a development and runtime Common Operating Environment (COE) that runs on an open system architecture and permits developing and hosting modernized combat support information systems
- (2) modernizing/rehosting prototype combat support information systems, maintaining or improving current functional capability while reducing life-cycle costs
- (3) providing an integrated view across modernized combat support information systems through use of an enterprise data base and common data elements.

This program is in Budget Activity 7, Operational System Development, because the program modernizes Automated Information Systems (AISs).

(U) FY 1996	
- (U) \$4,300	Phase 1 Pilots [Air Force Operational Resources Management System (AFORMS), Manpower Data System (MDS), and Logistics Module -
	Base Level (LOGMOD-B)].
	Phase 2 Milestone Review and Source Selection.
	Standard Base Supply System (SBSS) Increment 1 Modernization/Test.
	Rehost AFORMS, MDS, LOGMOD-B, and Cargo Movement Operations System (CMOS).
- (U) \$845	Common Operating Environment (COE) Migration/Architecture.
	Total
Droipet	Page 1 of 5 Pages Exhibit R-2 (PE 0303141E)

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational	PE NUMBE 7 - Operational System Development 030314	PE NUMBER AND TITLE 0303141F Global Combat Support System	
(U) <u>FY 1997</u> - (U) \$3,153 - (U) \$2,298 - (U) \$2,500 - (U) \$2,500 - (U) \$2,300 - (U) \$3,800 - (U) \$3,800 - (U) \$3,800	System Program Office Operations/Contractors Sustaining Mgmt/Award Fee Modernization Planning & System Integration Lab Phase 1 Pilots (AFORMS, MDS, and LOGMOD-B). SBSS Increment 1 Modernization/Test Rehost AFORMS, MDS, LOGMOD-B, and CMOS. COE Migration/Architecture Total	Award Fee	
(U) <u>FY 1998</u> - (U) \$11,498 - (U) \$3,597 - (U) \$2,600 - (U) \$2,400 - (U) \$20,894	System Program Office Operations (includes manpower costs)/Contractor Sustaining Mgmt/Award Fee Modernization Planning/SIL SBSS Increment 1 Modernization/Test Rehost AFORMS, MDS, LOGMOD-B, and CMOS. COE Migration/Architecture Total	ntractor Sustaining Mgmt/Award Fee	
(U) <u>FY 1999</u> - (U) \$9,410 - (U) \$2,502 - (U) \$2,003 - (U) \$3,606 - (U) \$18,334	System Program Office Operations (includes manpower costs)/Contractor Sustaining Mgmt/Award Fee Modernization Planning/SIL SBSS Increment 1 Modernization/Test SBSS Increment 2 Modernization/Test COE Refresh/Architecture Total	ntractor Sustaining Mgmt/Award Fee	
Project	Page 2 of 5 Pages		Exhibit R-2 (PE 0303141F)

	RDT&E BUDGET ITEM JUS	TFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhib	it)	DATE	February 1997
3-7 7-C	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303141F Globs	D TITLE Global Con	БТПТЕ Global Combat Support System		PROJECT
9 99	(U) B. Program Change Summary (\$\sumsymbol{s}\$ in Thousands)(U) FY97 President's Budget(U) Appropriated Value	FY 96 10,400 10,400	EY 97 15,193 15,193	FY 1998 15,597	FY 1999 16,096	Total <u>Cost</u> TBD	
<u> </u>	 (U) Adjustments to Appropriated Value a. Cong Reductions b. Small Business Innovative Research c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming 	-201 -225 -114 -3	.304 -332				
23	(U) FY 1998/1999 Biennial Budget	9,793	-14 14,543	5,297 20,894	2,238 18,334	TBD	
	(U) Schedule: Full Standard Base Supply System (SBS) modernization delayed 2 years. (U) Technical: No change to program Punding Summary (\$\frac{5}{3}\$ in Thousand\$\frac{5}{3}\$) modernization delayed 2 years. (U) Technical: No change to program technical requirements. (U) Other Proc, AF (Phase 1)* (U) Other Proc, AF (Phase 2)** FY 96 O&M funds to RDT&E for GCCS. (U) Other Proc, AF (Phase 1)* FY 96 (U) Other Proc, AF (Phase 1)* Funding for enterprise license for Commercial Off-the-Shelf Software part of SBSS modernization solution. * Funding for enterprise license for Commercial Off-the-Shelf Software part of SBSS modernization solution. * Support Phase I prototype systems. * Funding for enterprise license for Commercial Off-the-Shelf Software part of SBSS modernization solution. * Support Phase I prototype systems and manpower/DBOF costs (in FY98+ these costs are in RDT&E lines shown above)	t of the GCSS-AF (1) an addition to Office operation nodernization del nodernization del S. FY 97 7,200 7,900 7,900 celf Software part costs (in FY98+	F activity to be funde to offset FY96 O&M ons and Base Operations and Base Operations and EY 99 FY 00 FY 99 FY 00 to SBSS modernizathese costs are in RL	ating Support O FY 01 nization solution RDT&E lines sl	kE vice O&M function, (2) a reduction, (2) a reduction (2) a reduction (3) a reduction (4) a reduction (4) a reduction (5) a r	nds. The FY98 ction to fund hi T&E for GCCS To Compl	i and FY99 addition igher priority Air Force S. Total Cost 12,512 7,200 7,900
Project	1	Pag	Page 3 of 5 Pages		Û	Exhibit R-2 (PE 0303141F)	. 0303141F)
			1545				

RDT&E BUDGET		TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
धDGET ACTIVITY 7 - Operational System Development	pment	PE NUMBER AND TITLE 0303141F Global Combat Support System	ı
U) D. Schedule Profile			
U) Phase 1 (U) SBSS Increment 1. (U) Rehost prototypes & CMOS (U) COE Migration/Architecture (U) Phase 2 Increment 2. (U) SBSS Increment 2. (U) COE Refresh/Architecture (U) COE Refresh/Architecture	FY 1996 1 2 3 4 1 X X X X X	FY 1997 2 3 4 1 2 3 -X -X	4 1 2 3 4 X X X
roject	Pas	Page 4 of 5 Pages	Exhibit R-2 (PE 0303141F)

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT COS	T BREAK	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NU 030	PE NUMBER AND TITLE 0303141F Glob	al Combat S	D TITLE Global Combat Support System	PROJECT
(U) A. Project Cost Breakdown (\$000 in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) System Program Office Operations/Contractor Sustaining		3,153	11,498	9,410	
Management/Award ree (U) Phase 1	4,300	492			
(U) Modernization Planning/SIL	2,145	2,298	799	813	
	1,500	2,500	3,597	2,502	
(U) Rehost AFORMS, MDS, LOGMOD-B, and CMOS. (II) COF Migration/Architecture	1,000	2,300	2,600 2,400		
	2	2006	î	2,003	
(U) Total.	9,790	14,543	20,894	18,334	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	Thousands)				
Project	Page 5 of 5 Pages	5 Pages		Exhibit R	Exhibit R-3 (PE 0303141F)

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PE NUMBER: 0303144F

UNCLASSIFIED

PE TITLE: Electromagnetic Compatibility Analysis Center (ECAC)

RDT&E BUDGET IT	EM JUS	STIFICA	TION SI	HEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE	February 1007	700
BUDGET ACTIVITY								כֿו	Juany 1:	121
7 - Operational System Development	44		0 3 0 0	PE NUMBER AND TITLE 0303144F Elect Center (ECAC)	PENDMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)	ignetic C	ompatibi	lity Anal		РКОЈЕСТ 649Е
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimata	FY 2002 Estimate	FY 2003	Cost to	Total Cost
							-silliate	Collinate	Complete	
649E Joint Spectrum Center (JSC)	1,500	7,307	7,844	7,973	8,204	8,328	8,950	9,233	Continuing	9,233 Continuing Continuing
									•	9
Quantity of RD1&E Articles	0	0	0	0	0	0	0	0	0	0

management matters in support of the Unified Commands, Military Departments, and Defense Agencies in planning, acquisition, training, and operations. The JSC receives Secretary of Defense (OASD), Joint Staff, DoD activities and Unified Commands to ensure development and acquisition of electromagnetically compatible systems and for and EM interference resolution assistance to operational units including deployable support to CINC Joint Task Forces. The JSC mission is integral to other vital activities the effective deployment of these systems in military operations. This Center is the focal point for spectrum related support, Electromagnetic Environmental Effects (E³), such as Information Warfare (IW), Command and Control (C2) Protect and other defensive C3 warfare activities as directed by the Joint Staff. This program is in budget Agencies. The JSC databases are the prime sources of information for DoD use of the EM spectrum. The JSC provides guidance and assistance to Office of Assistant responsibility for architecture and standardization of DoD automated spectrum information and management systems. Specifically, the Center designs, develops, and (U) A. Mission Description and Budget Item Justification(U) The Joint Spectrum Center (JSC) serves as the DoD focal point for electromagnetic (EM) spectrum operational guidance from the Joint Staff (16) and policy guidance from the Assistant Secretary of Defense for Command, Control, Communications and Intelligence maintains DoD automated spectrum management systems, evaluation tools, and databases employed by the Unified Commands, Military Departments, and Defense (ASD(C³I)). The JSC is the responsible activity for DoD spectrum management and use automation for strategic, theater, and tactical operations. The JSC has the activity 7 - Operational System Development, because it involves efforts supporting operational systems development.

the Joint Spectrum Center effective 28 Sep 94. For FY 1996, Executive Agent responsibility and funds for JSC were transferred from the Air Force to Defense Information NOTE: FY 1995 RDT&E funding was budgeted within the Air Force under PE 0303144F, Electromagnetic Compatibility Analysis Center (ECAC) which was renamed Systems Agency (DISA). However, in November 1995, Air Force was redesignated as the Executive Agent and agreed to provide FY 1996 funding for PE 0303144F to support those mission requirements not funded under the DISA PE 0303153K. Beginning FY 1997, the JSC responsibility and funds returned to the Air Force.

- (U) FY 1996 (\$ in Thousands):
- Identify and develop techniques and procedures to ensure E3 effects to ordnance are addressed during joint service operations. 700 3
 - Plan/coordinate and design standard DoD Spectrum Management Information System in support of CINCs/Services 800
 - (U) 1,500
- FY 1997 (\$ in Thousands): 9
- Procure Fast Hopper Direction Finder (DF) System (<2 GHz) to support Joint Spectrum Interference Resolution (JSIR)

Project 649E

Page 1 of 7 Pages

Exhibit R-2 (PE 0303144F)

		R	RDT&E BUDGET ITEM JUSTIFICATION	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	766
BUDGET ACTIVITY 7 - Operation	ACTIVI erati	חץ onal S	вирсет Астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)		РRОЈЕСТ 649Е
1	E	220	Enhance automated database systems (i.e., Consolidated Maintenance Center (CMC), EMC Catalog System, Tactical Environment	Maintenance Center (CMC), EMC Catalog System,	Tactical Environment	
I	(U) 1,110	1,110	Cenerator workstation (TEODAN WS), and INTEL Data Resources (LDKJ) School the Joint Space Management System (JSMS) and Frequency Resource Record System (FRRS) in accordance with user requirements Activate the Christian Committee of the Committee of the Christian	Resources (LDK.) S) and Frequency Resource Record System (FRRS) in	n accordance with user requ	uirements
1 1	58	1,300	defined by the CINCs and Services Initiate implementation of standard DoD Spectrum Management Information System in support of CINCs/Services Provide support to ASD(C3) on issues expected to arise in preparation for the World Podio Conference 07 and on other images.	nd Services of standard DoD Spectrum Management Information System in support of CINCs/Services I(C3) on issues expected to arise in preparation for the World Dodis, Conference 07 and on a	lervices	,
	9		reallocation of Government spectrum to the civil sector	in proparation for the World Natio Conference 97 at	nd on other issues regardin	ញ
1 1	33	300 227	Integrate Electromagnetic Environment Effects (E³) requirements within DoD modeling and simulation architectures Continue improvement of Joint Spectrum Center (JSC) Cosite Analysis Model by adding user friendly graphics interly	tic Environment Effects (E³) requirements within DoD modeling and simulation architectures of Joint Spectrum Center (JSC) Cosite Analysis Model by adding user friendly graphics interfaces	itectures ics interfaces	
1	9	200	Develop Space/Earth EMC and Radiation (SEER) visualization capabilities	lization capabilities		,
l	9	0,60,1	Complete mind Aircraft met-Antenna Propagation with Graphics (AAPG)-2000 capability, perform advanced research efforts in area of supplementary measurements and modification to the transmitter/receiver (T/R) module algorithm, and continue research of E ³ analysis of ultra-	n Graphics (AAPG)-2000 capability, perform advanc ansmitter/receiver (T/R) module algorithm, and contii	ed research efforts in area nue research of E ³ analysis	of s of ultra-
ı	9	480	wideband (UWB) ultra-high resolution (UHR) radar waveforms Develop Radar Coverage Model to enhance/provide new visualization graphics capabilities for system-level analysis on a personal computer	veforms v visualization graphics capabilities for system-level ϵ	analysis on a personal com	puter
	Œ	230	(PC) A sease advanced communications/wagners wistows took	on of order of the second seco		. :
	2	0.74	Assess any ancear communications, weapons systems technologies for electromagnetic compatibility (EMIC) implications and EMIC modeling limitations	motogies for electromagnetic compationity (EMC) in	nplications and EMC mode	eling
ı	3	300	Develop database to provide E3 Hazards of Electromagnetic Radiation to Ordnance (HERO) susceptibility and equipment characteristics data,	etic Radiation to Ordnance (HERO) susceptibility an	d equipment characteristica	s data,
ı	9	740	and begin development of Joint Ordnance E ³ Risk Assessment Database and the PC HERO Susceptibility System Identify and develop techniques and procedures to ensure E ³ effects to ordnance are addressed during joint service	of Joint Ordnance E' Risk Assessment Database and the PC HERO Susceptibility System chniques and procedures to ensure E' effects to ordnance are addressed during joint service onerations	stem rivice onerations	
1 \$	_ `	7,307	Total			
<u>)</u> 1	3 2 3 3 5	150 m 150	<u> Thousands):</u> Procine East Honner DF System (> 2 GH2) to summort Ivint Sneoteum Interference Desclusion (1819)	int Chantenim Interference Decolistion (ICID)		
I	3	190	Initiate development of new database capabilities to provide access to JSC data over INTEL link and develop new capabilities to permit access to	one Spectaun interference resolution (331R) vide access to JSC data over INTEL link and develop	new capabilities to permit	access to
ı	5	120	Defense Information Infrastructure (DII)/Global Command and Control System (GCCS) resident capabilities. Enhance the ISMS and FRRS in accordance with user requirements defined by the CINCs and Services.	frastructure (DII)/Global Command and Control System (GCCS) resident capabilities. FRRS in accordance with user requirements defined by the CINCs and Samiloss	•	
1	3	,299	Continue implementation of Standard DoD Spectrum Management Information System to support CINCs/Services.	anagement Information System to support CINCs/Ser	rvices.	
ı	9	570	Provide support to ASD(C3I) on issues regarding reallocation of Government spectrum to the civil sector	ation of Government spectrum to the civil sector		
1	9	360	Continue integration of E ³ requirements within DoD modeling and simulation architectures and assemble a suite of simulations to support the	odeling and simulation architectures and assemble a su	uite of simulations to supp	ort the
	()	305	acquisition of C-E equipment Complete development of JSC cosite model graphical improvements	nprovements		
ı	<u>(</u>	830	Complete development of E3 visualization packages into	of E3 visualization packages into Space/Earth EMC and Radiation (SEER)		
Project 649E	49E		Page	Page 2 of 7 Pages Exhi	Exhibit R-2 (PE 0303144F)	

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		RE	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997
BUDGET ACTIVITY 7 - Operation	Perat	^{лт∀} Honal S	вироет Астилт 7 - Operational System Development	PROJECT O303144F Electromagnetic Compatibility Analysis 649E Center (ECAC)
1	E	640	Conduct research to develop techniques to analyze steal algorithms, and continue research of Electromagnetic Erradar waveforms	Conduct research to develop techniques to analyze stealth materials, continue advanced research efforts in transmitter/receiver (T/R) module algorithms, and continue research of Electromagnetic Environment Effects (E³) analysis ultra-wideband (UWB) ultra-high resolution (UHR) radar waveforms
1	<u>(</u>	490	overa	ge Model to include communications systems and continue development of new visualization graphics capabilities for
1 1	99	160 230	System-rover analysis on a personal computer (1.57) Develop visualization products to highlight and graphics Assess advanced communications/weapons systems tech limitations	System-rever analysis on a personal computer (15) Develop visualization products to highlight and graphically depict E³ effects in models & simulations Assess advanced communications/weapons systems technologies for electromagnetic compatiblity (EMC) implications and EMC modeling
1	9	400	evelopment Database	of E³ Hazards of Electromagnetic Radiation to Ordnance (HERO) Susceptibility System and Joint Ordnance E³ Risk
1	9	(U) 1,100	Identify and develop techniques and procedures to ensur	Identify and develop techniques and procedures to ensure E ³ effects to ordnance are addressed during joint service operations
1	9	7,844	Total	
<u> </u>	되	1999 (\$ in	1999 (\$ in Thousands): 450 Provine Intercent Receiver to sunnort Joint Spectrum Interference Resolution (TSIR)	terference Resolution (ISIR)
1	<u> </u>	300	Develop new capabilities to enhance the efficiency, qual	Develop new capabilities to enhance the efficiency, quality, and functional capability of the databases, and to permit access to Defense
	Ę	000	Information Infrastructure (DII)/Global Command and Control System (GCCS) resident capabilities	Information Infrastructure (DII)/Global Command and Control System (GCCS) resident capabilities
I	9	2,070	refease mina Operating Capability for Standard DOD S	בספרות חוו וממומצעוועו וווסווומנוטו סיסיעו מות ממת מתחניטות של הקינועי בקינועת דינו
ı	9	290	Provide support to ASD(CI) on issues expected to arise	processing the state of the civil sector of the civil sector.
I	9	455	Continue integration of E^3 requirements within DoD mo	Continue integration of E ³ requirements within DoD modeling and simulation architectures and assemble a suite of simulations to support the
1	9	470	Develop algorithm for analyzing advanced systems, and integrate EM coupling models into the cosite model	d integrate EM coupling models into the cosite model
I	3	089	Integrate Space/Earth EMC and Radiation (SEER) display capability with graphical database select	lay capability with graphical database select
ı	99	650	Implement techniques developed to account for stealth n	developed to account for stealth materials in AAPG-2000; continue research of E ³ analysis of UWB UHR Rdr waveforms
1	9	420	pevelop auvalice features to trauat coverage mouer and analysis on a PC	Develop auvaice realities to read Coverage proder and continue development of new resoundation graphics expressives for system for analysis on a PC
ı	9	160	Develop visualization products to highlight and graphics	products to highlight and graphically depict E3 effects in models & simulations
I	9	230	Assess advanced communications/weapons systems tech	Assess advanced communications/weapons systems technologies for EMC implications and EMC modeling limitations
1	€	410	Identify and develop techniques and accordance to encur	Complete Joint Ordnance E' Risk Assessment Database and develop additional data and analysis tools to manipulate data Identify and develor techniques and proceedures to ensure E ³ effects to ordnance are addressed during ionit service onerations
1	9 €	7 073	identity and develop techniques and procedures to ensure	He E CHECKS to Otherative are addressed by this joint service operations
l	9	616,1	LUkar	
Project 649E	649E		Pag	Page 3 of 7 Pages Exhibit R-2 (PE 0303144F)

RDT&E BUDGET ITEM J	TEM JUSTIFICATION SHEET (R-2 Exhibit)	FION SE	HEET (R.	-2 Exhit	it)		DATE	Fobracon, 4007	
BUDGET ACTIVITY 7 - Operational System Development		PE NU 030 Cen	PE NUMBER AND TITLE 0303144F Elect Center (ECAC)	ть lectroma C)	gnetic C	ompatibi	PE NUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)	2	937 РКОЈЕСТ 649Е
(U) B. Program Change Summary (\$ in Thousands)									
(U) Previous President's Budget (U) Appropriated Value (I) Adjustments to Appropriated Value	FY 1996 0	집	FY 1997 7,667 7,667	FY 1998 7,910	FY 1999 8,049	6 <u> </u> 6±	Total Cost		
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram			-160 -200						
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget (U) Change Summary Explanation:	1,500 1,500		7,307	-66 7,844	-76 7,973	3 5	Cont		
Funding: Effective FY 1997 funding for JSC transferred from DISA to the Air Force. Schedule: Not Applicable Technical: Not Applicable (U) C. Other Program Funding Summary (\$\mathbf{S}\$ in Thousands)	erred from DISA n <u>ds)</u>	to the Air F	orce.						
(U) O&M AF BA 1 4,802	1996 FY 1997 4,802 11,823	FY 1998 12,466	FY 1999 12,773	FY 2000 12,776	FY 2001 12,862	FY 2002 13,154	FY 2003 13,470	To Compl Cont	Total Cost Cont
FY 1996 - O&M funding provided by DISA PE 0303153K. In November 1995, Air Force redesignated as the Executive Agent and provided FY 1996 funding for PE 0303144F to support those mission requirements not funded under DISA PE 0303153K. FY 1997 and beyondO&M funding budgeted by the Air Force.	In November 19 under DISA PE	995, Air Forc 0303153K.	ce redesignat FY 1997 and	ed as the Exu beyondOa	ecutive Age &M funding	nt and provi budgeted b	ded FY 1996 fi y the Air Force.	unding for	PE
Project 649E		Page 4 of 7 Pages	' Pages			Exhibit	Exhibit R-2 (PE 0303144F)	3144F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1907	1007
вирсет Астіvіту 7 - Operational System Development	PENUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)	mpatibility Analysis	PROJECT 649E
(U) Decision on Exercise of Option ITT Research Institute (F19628-95C-0060) (U) Exercise of Option ITT Research Institute (F19628-95C-0060) (U) Exercise of Option ITT Research Institute (F19628-95C-0060) (U) Commerce Business Daily for Follow-on Contract Follow-on Contract		4 1 2 3	4 ×
Project 649E	Page 5 of 7 Pages	Exhibit R-2 (PE 0303144F)	

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X	JT&E	PROGRAM EL		PROJEC	EMENT/PROJECT COST BREAKDOWN (R-3)	3REAKD	OWN (R-	(6)	DATE	February 1997	997
вирает Астипту 7 - Operatio r	вирбет АстіvітY 7 - Operational System Developmen	evelopmer	ηt		PE NUMB 03031 Cente	PE NUMBER AND TITLE 0303144F Electi Center (ECAC)	omagneti	PE NUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)	Ibility Ana		РРОЈЕСТ 649Е
(U) A. Project	(U) A. Project Cost Breakdown (\$ in Thousand	(\$ in Thousand	(sp		:						
(U) Program Ma	(U) Program Management Personnel	iel		FY]	FY 1996 E	FY 1997	FY 1998	FY 1999	61		
(U) Contractor E (U) Total	(U) Contractor Engineering Support (U) Total	Ħ		, 	1,500 1,500	7,307	7,844	7,973 7,973			
(U) B. Budget	(U) B. Budget Acquisition History and Planning	ry and Plannin	ig Information (\$ in Thousands)	ı (\$ in Thous	sands)						
Performing Organizations:	anizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Develop	Product Development Organizations	ωl									
Support and Man	Support and Management Organizations	<u>tions</u>									
Test and Evaluation Organizations IIT Research C/CPAF/ Institute, Annapolis MD	on Organizations C/CPAF/	17 May 95	32,982	32,982	1,504	1,500	7,057	7,694	7,523	7,704	32,982
(U) B. Budget A	Budget Acquisition History and Planning Information Continued (\$ in Thousands)	y and Planning	g Information	Continued	(\$ in Thousanc	ত্ত্					
Project 649E					Page 6 of 7 Pages	Ses		Щ Б	Exhibit R-3 (PE 0303144F)	0303144F)	
					1554						

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RDT&E PROGRAM EL	GRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	ECT COST BF	REAKDO	WN (R-3		DATE Fe	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developmer	evelopmer	<u>+</u>	PE NUMBER AND TITLE 0303144F Elect Center (ECAC)	AND TITLE F Electro ECAC)	magnetic	PENUMBER AND TITLE 0303144F Electromagnetic Compatibility Analysis Center (ECAC)	bility Ana		РRОЈЕСТ 649Е
Government Furnished Property:									
Contract Method/Type Item or Funding <u>Description</u> <u>Vehicle</u>	e Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total. Program
Product Development Property									
Support and Management Property									
Test and Evaluation Property GFP C/CPAF	17May95	1Jul95-30Sep98			250	150	450	Cont	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation					250	150	450	Cont	Cont
Total Project			1,504	1,500	7,307	7,844	7,973	Cont	Cont
Project 649E			Page 7 of 7 Pages	ęş.		Exh	Exhibit R-3 (PE 0303144F)	0303144F)	i

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PE NUMBER: 0303152F

UNCLASSIFIED

PE TITLE: Automated Data Processing Equipment

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 030	PE NUMBER AND TITLE 0303152F Autol	PENUMBER AND TITLE 0303152F Automated Data Processing Equipment	d Data P	rocessin	g Equipn		РRОЈЕСТ 4485
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4485 AF-Global Command and Control System (AF-GCCS)	0	7,299	6,820	6,650	6,798	6,658	6,771	6,917	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

Note: The Air Force is in the process of changing the title of Program Element 0303152F from Automated Data Processing Equipment to Global Command and Control System (GCCS). This is an effort to consolidate/centralize accounting for the AF-GCCS program, which is now the operational system of record.

(U) A. Mission Description and Budget Item Justification

step to eliminating stovepipe systems. The AF is responsible for developing four of the modules that will make up this COE, and integration of AF unique applications with the COE. This effort is Budget Activity 7, Operational System Development, because the program develops and implements software for an operational computer interoperability problems between Service components by establishing a Defense Information Infrastructure (DII) Common Operating Environment (COE), as the first (U) The Global Command and Control System (GCCS) is the designated Command and Control migration system for the DoD. It is an integrated Command, Control, Communications, Computer, and Intelligence (C41) system capable of supporting all echelons of the US military command structure. GCCS solves C41 network.

(U) FY 1996 - (U) O FY 1997 - (U) 4,492 - (U) 1,872 - (U) 935 - (U) 7,299 (U) FY 1998 - (U) 7,103 - (U) 4,103 - (U) 6,820	Total	COE Development Crisis Action Planning Evolution Enhancement to the Operational Tasking and Priority System (OT&P) to support user identified Functional Process Improvements Total	COE Development Crisis Action Planning Evolution Total

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Page 1 of 5 Pages

Project 4485

Exhibit R-2 (PE 0303152F)

RDT&E BUDGET ITEM JL	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	įt)	DATE Fohrigm, 1007	1007
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0303152F Auto	D TITLE Automated	Data Process	БТІТІЕ Automated Data Processing Equipment	PROJECT 4485
(U) <u>FY 1999</u> - (U) 3,990 COE Development - (U) 2,660 Crisis Action Planning Evolution - (U) 6,650 Total						
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY 1997 President's Budget (U) Appropriated Value	FY 1996 0	FY 1997 7,481 7,481	FY 1998 7,296	FY 1999 7,196	Total <u>Cost</u> TBD	
a. Cong Reductions b. Small Business Innovative Research		-157 -25				
(U) FY 1998 Biennial Budget	0	7,299	-476 6,820	-546 6,650	TBD	
(U) Change Summary Explanation:						
Funding: FY97 was first budget submission. Schedule: CCCS is an evolutionary system. The DII COE requirements continually evolve to solve C4I interoperability problems and to support the efficient migration/integration of C4I applications at all levels of command. Funding reductions delay critical DII migration and C4I interoperability.	iated program; FY5 mission. lay Crisis Action Pla 'he DII COE require 41 applications at all	of President's Bunning Enhancem ments continually levels of comma	iget was submitt ents. The schedu evolve to solve nd. Funding red	ed before the requi le is currently bein C41 interoperabilii uctions delay critic	nming initiated program; FY96 President's Budget was submitted before the requirement for RDT&E AF funds and submission. 99 will delay Crisis Action Planning Enhancements. The schedule is currently being defined. system. The DII COE requirements continually evolve to solve C4I interoperability problems and to support the ation of C4I applications at all levels of command. Funding reductions delay critical DII migration and C4I	unds were rt the
Project 4485	Pag	Page 2 of 5 Pages		EX	Exhibit R-2 (PE 0303152F)	ſ

RDT&E BUDGET	_	USTIFIC	SATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Ex	(hibit)		DATE	February 1997	2661
BUDGET ACTIVITY 7 - Operational System Developme	nent			PE NUMBER AND TITLE 0303152F Auto	IND TITLE Automa	ated Dat	a Process	Б ТІТLE Automated Data Processing Equipment	ment	РРОЈЕСТ 4485
(U) C. Other Program Funding Summary in P	n PE 33152F	E 33152F (\$ in Thousands)	sands)	EV1000	CACAGO	LOOCAL	, , , , , , , , , , , , , , , , , , ,			
(U) Other Procurement, Air Force(U) Military Personnel(U) Operations and Maintenance, Air Force	5,137 1,023 9,232	10,165 931 10,332	7,319 986 17,297	5,980 967 17,673	5,992 987 18,025	5,998 1,017 18,557	6,098 1,047 18,590	6,146 1,078 19,322	To Compl TBD TBD TBD	Total Cost TBD TBD TBD
(U) D. Schedule Profile	1 2	FY 1996 2 3	4	FY 1997 2 3	3 4	_	FY 1998 2 3	, 	FY 1999 2 3	
1.) (U) Common Operating Environment (COE) Development • Multi-Media • Distributed Computing Services • Office Automation • Management Services 2.) (U) Crisis Action Planning Enhancement					****			××××		***
(U) Note: The schedule for the initial GCCS COE was originally established in FY95. The release was adjusted to align with the Defense Information Systems Agency (DISA) DII COE delivery schedule.	OE was origi	nally establi	shed in FY9	5. The relea	se was adjus	ted to align	with the Def	ense Informati	on Systems	Agency
Project 4485			Page 3	Page 3 of 5 Pages			Ĭ.	Exhibit R.2 (PE 0303159E)	1303452E)	

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JT&E PROGRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3	<u>s</u>	DATE February 1997	v 1997
BUDGET ACTIVITY 7 - Operational System Development	PE 00.	PE NUMBER AND TITLE 0303152F Autol	E omated Data	Processin	D דודונ Automated Data Processing Equipment	PROJECT 4485
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999		
(U) Common Operating Environment (COE) Development (U) Crisis Action Planning Evolution (U) Operational Testing and Planning (OT&P) Enhancement		4,492 1,872 935	4,103	3,990		
(U) Total	0	7,299	6,820	6,650		
Project 4485	Page 4 c	Page 4 of 5 Pages		Exhibi	Exhibit R-3 (PE 0303152F)	Ē

RDT	RDT&E PROGRAM E	SAM ELE	MENT/P	ROJEC	LEMENT/PROJECT COST BREAKDOWN (R-3)	3REAK	JOWN (F	7-3)	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	System Dev	elopment			PE NUMBE 03031	PE NUMBER AND TITLE 0303152F Auto	mated Da	PE NUMBER AND TITLE 0303152F Automated Data Processing Equipment	ssing Equ	ipment	PROJECT 4485
(U) B. Budget Acquisition History and Planni	isition History a	nd Planning	ng Information (\$ in Thousands)	(\$ in Thousa	(spui						
Performing Organizations:	ations:										
Product Development Organizations Contractor or Contract	nt Organizations Contract										
Government Performing <u>Activity</u>	Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Total	
(U) Rome Lab (U) Material	FFP/FCA various	Jun 95 various	N/A N/A	Y X	250	0	0	0	6 1999 0	TBD TBD	
Systems Group (U) Miscellaneous	various	various	A /X	\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \	× ×	· -	· •	> <		Udi Car	
(U) ESC	various	various	N/A	N/A	0	00	7,299	6,820	6,650	TBD	
Support and Management Organizations (U)TEMS OT&M (U) Miscellaneous various v	ment <u>Organizatio</u> OT&M various	ns Jun 95 various	N/A N/A	N/A N/A	150	0 0	0 0	00	0	150	
Test and Evaluation Organizations (U) Not Applicable	Organizations										
Government Furnished Property: Not Applicable	ed Property: N	ot Applicable									
(U) Total					1,900		0 7,299	6,820	20 6, 650	50 TBD	•
Project 4485				P	Page 5 of 5 Pages	ses		Ü	xhibit R-3 (P	Exhibit R-3 (PE 0303152F)	

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PE NUMBER: 0303601F

UNCLASSIFIED

PE TITLE: MILSATCOM Terminals

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 7 - Operational System Developmen	Į.		PE N 030	PE NUMBER AND TITLE 0303601F MILS	PE NUMBER AND TITLE 0303601F MILSATCOM Terminals	OM Term	inals			PROJECT 2487
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2487 MILSATCOM Terminals	40,678	19,289	12,871	8,799	13,030	28,274	2,531	418	5,446	5,446 1,943,047
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

funding for UHF SATCOM is in PE 0303606F (UHF SATCOM). Prior funding for SHF terminals is in PE 0303605F. Prior year funding for all programs is included in Note: FY96 funding is only for Milstar EHF terminals. From FY97 on, funding includes Milstar EHF terminals, SHF terminals and UHF SATCOM. Prior and FY96 total program cost.

(U) A. Mission Description and Budget Item Justification

Access (DAMA) techniques. Development efforts in the UHF SATCOM program are primarily focused on the design and implementation of the Network Control System Satellite Communication System (DSCS). Enhancements to the Milstar ground and airborne Command Post Terminals (CPT), which were procured in FY93 through two Tactical Terminal (SMART-T), are funded by the Air Force and procured by the Army. Increasing requirements for UHF satellite capacity, coupled with limited channel (NCS) and ground and airborne DAMA terminals. DSCS terminal procurement efforts sustain and modernize the Ground Mobile Forces terminal and the Jam-Resistant Secure Communications (JRSC) subnet of DSCS. This effort is in Budget Activity 7, Operational System Development, because it has completed a Milestone III review contains efforts to develop equipment for Air Force users to communicate over military satellites, including Milstar, Ultra High Frequency (UHF) satellites, and Defense contractors, are continuing. The Air Force's Milstar tactical terminals, the Single Channel Anti-Jam Manportable (SCAMP) and the Secure, Mobile, Anti-Jam, Reliable, capacity, led the Joint Staff to mandate new standards for UHF users that are designed to improve satellite access and efficiency by utilizing Demand Assigned Multiple Military Satellite Communications (MILSATCOM) provides worldwide communications to strategic and tactical warfighters. The MILSATCOM Terminals Program and is in production.

	star Terminals program)	ions				
	Continue basic activities required to support the Milstar Terminals program	Develop CPT upgrades and modifications	Continue UHF terminal and AFSATCOM modifications	Support testing activities	AFSATCOM Payload Integration on Classified Host	Reserved for other DoD reprogramming needs	Total
(0)	(U) \$4,028	(U) \$28,990	(U) \$5,070	(U) \$1,870	(U) \$704	91\$ (A)	(U) \$40,678
<u> </u>	1	l	ı	1	ı	1	ı

Continue basic activities required to support the MILSATCOM Terminals program (U) <u>FY 1997</u> - (U) \$4,077

Project 2487

Page I of 6 Pages

Exhibit R-2 (PE 0303601F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	3-2 Exhibi	t)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0303601F MILS	TITLE WILSATCON	DE NUMBER AND TITLE 0303601F MILSATCOM Terminals	PROJECT 2487
 (U) \$10,498 Develop CPf upgrades and modifications (U) \$589 Continue UHF terminal and AFSATCOM modifications (U) \$1,850 Support Milstar testing activities (U) \$2,275 Conduct worldwide system test on Network Control System (U) \$19,289 Total 	ns ystem			
 (U) FY 1998 (\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\\$\	minals			
(U) FY 1999 (\$ in Thousands): - (U) \$2,105 Continue basic activities to support MILSATCOM terminals - (U) \$6,694 Develop CPT upgrades and processor modifications - (U) \$8,799 Total	minals			
(U) B. Program Change Summary (\$ in Thousands) FY 1996* (U) Previous President's Budget (U) Appropriated Value	FY 1997 26,962 20,348	<u>FY 1998</u> 19,925	<u>FY 1999</u> 12,628	
(U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR c. Omnibus and Other Above Threshold Reprogram -261	-904			
<i>Y97</i> PB 40,	19,289	-7,054 12,871	-3,829 8,799	
 (U) Change Summary Explanation: Funding reductions in FY98-99 reflect deletion of Joint MILSATCOM UHF Network Integrated Controller (JMINI) development funds and other small reductions. FY96 funds include \$16 reserved for other DoD reprogramming needs. Schedule: None. Technical: None. 	M UHF Network li amming needs.	ntegrated Contrc	iler (JMINI) devel	lopment funds and other small
Project 2487	Page 2 of 6 Pages		Ex	Exhibit R-2 (PE 0303601F)

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RDT&E BUDGET ITEM J	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FION SH	EET (R	-2 Exhil	oit)		DATE Fet	February 1997	7
BUDGET ACTIVITY 7 - Operational System Development		PE NU	PE NUMBER AND TITLE 0303601F MILS	ILSATC	DE NUMBER AND TITLE 0303601F MILSATCOM Terminals	nais		PR-	PROJECT 2487
(U) C. Other Program Funding Summary (\$ in Thousands)	(spi							To	Total
(U) Aircraft Procurement, Air Force 473 (U) Other Procurement, Air Force 47,708 Note: FY96 includes Milstar and SHF terminals. FY97and beyo Other Procurement funding does not include spares.	FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 473 20,288 16,678 10,777 19,62. 47,708 52,042 20,353 27,893 32,52. . FY97and beyond includes Milstar, SHF and UHF SATCOM. de spares.	FY 1998 16,678 20,353 Milstar, SHF	FY 1999 10,777 27,893 and UHF S.	FY 2000 19,628 32,521 ATCOM.	FY 2001 20,627 25,906	FY 2002 36,954 21,842	FY 2003 65,495 21,942	Cont Cont Cont	Cont
Related RDT&E: PE 0604479F Milstar LDR/MDR Satellite Communications	e Communicatio	us							
(U) D. Schedule Profile	FY 1996 2 3	4	FY 1997 2 3	4	$\frac{FY}{2}$	FY 1998 2 3		FY 1999 2 3	4
		× × ×	×						
(U) CPT Production Deliveries x (U) DFS 3	×	× ×	×	×			×		
(U) DFS 4 (U) DFS 5					×	×	× × ×	× ×	× ×
(U) SCAMP Production Begins (U) SCAMP Deliveries Begin * (U) SMART-T Low-Rate Initial Production Begins (T) Natural Control System	×		×		×				
(U) Testing x (U) Deliveries (U) Worldwide System Test	× ×	× × ×	*						
(U) DAMA Modem Certification Testing x (U) Airborne DAMA Terminal Upgrade	×								
(U) Contract Award/Option (U) Deliveries	×		×	×	×	×	× ×	×	×
Project 2487		Page 3 of 6 Pages	Pages			Exhib	Exhibit R-2 (PE 0303601F	303601F)	
		1868							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEE	T (R-2	Exhi	bit)			DATE E.	Fobruse, 4007	1007	
BUDGET ACTIVITY 7 - Operational System Development	PENUMBER AND TITLE 0303601F MIL SATCOM Terminale	R AND TIT	SATC	P	l cuima	١,		ani dali	PROJECT	5
(U) D. Schedule Profile FY 1996		FY 1997			11111111111111111111111111111111111111				748/	
(U) Ground DAMA Terminal Deliveries * Air Force deliveries begin Oct 97	- ×	x 3	4 ×	-		4 X	- ×	2 ×	6) E	₩
Project 2487	Page 4 of 6 Pages	25				Xhibit F	2-2 (PE (Exhibit R-2 (PE 0303601F)	í	
										İ

RI	RDT&E PROGRAM	GRAM EL		EMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R.	3)	DATE F	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	ıal System D	evelopme	nt T		PE NUMBER AN 0303601F		D TITLE MILSATCOM Terminals	erminals			PROJECT 2487
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999	6		
 (U) CPT Upgrades (U) UHF Upgrades (U) Testing Support/Studies (U) SPO Ops (PSA, TDY, Trng, Sup/Equip, Ktr Co (U) AFSATCOM Payload Integration (U) Network Control System World Wide system te (U) Reserved for other DoD reprogramming needs (II) Total 	CPT Upgrades UHF Upgrades Testing Support/Studies SPO Ops (PSA, TDY, Trng, Sup/Equip, Ktr Conv) AFSATCOM Payload Integration Network Control System World Wide system test Reserved for other DoD reprogramming needs Total	up/Equip, Ktr C ion I Wide system	Conv) test ls	28,990 5,070 1,870 4,028 704	00084 %	10,498 589 1,850 4,077 2,275	3,322	2,105	1 4 10 0		
(U) B. Budget Acquisition History and Plannin	cquisition Histor			g Information (\$ in Thousands)	, (Sp	17,209	17,0/1	6,199			· · · · · · · · · · · · · · · · · · ·
Performing Organizations: Contractor or Contract Government Method Performing or Fundi	nizations: Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY_1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Raytheon Corp FPIF/FFP Rockwell CPIF Miscellaneous Various ViaSat C/FFP	ent <u>Organizations</u> FPIF/FFP CPIF Various C/FFP	Sun 85 Aug 93 Various Oct 95	896,384 43,068 N/A 33,814	896,384 43,068 N/A 33,814	851,988 43,068 643,797	17,960 0 5,967	7,978 0 589 2,108	7,966	5,502	4,792 0 0 31,539	896,186 43,068 650,353 33,647
Support and Management Organizations MITRE CPAF Var SPT Contractors Various Var Tecolote Various Var Miscellaneous Various Var	gement Organizat CPAF Various Various	<u>tions</u> Various Various Various Various	N N N N N N N N N N N N N N N N N N N	N/A N/A N/A	84,453 146,973 698 16,512	8,505 5,012 682 1,338	3,607 1,643 0 2,214	1,916 1,650 705 634	1,469 563 726 539	4,243 2,513 1,518 5,094	104,193 158,354 4,329 26,331
Project 2487				Pay	Page 5 of 6 Pages	ges		Exh	Exhibit R-3 (PE 0303601F)	0303601F)	

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	RDT&E B	BUDGET IT		LIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	T (R-2 E	xhibit)		DATE	February 1997	792
BUDGET ACTIVITY 7 - Operation	вирсет Астіvіт 7 - Operational System Developmen	evelopmen	<u> </u>		PE NUMBER AN 0303601F	PE NUMBER AND TITLE 0303601F MILS/	D TITLE MILSATCOM Terminals	rminals			PROJECT
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Test and Evaluation Organizations Wright-Labs AF-616** Miscellaneous Various	Organizations AF-616** Various	N/A Various	N/A N/A	N/A N/A	19,066	1,025	1,150			0 0	21,241
Government Furnished Property: N/A	shed Property: N/	Α/									
Product Development Property	ent Property N/A	∀									
Support and Management Property	gement Property	N/A									
Test and Evaluation Property	n Property N/A										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Development nd Management Evaluation				1,538,853 248,636 24,222	23,927 15,537 1,214	10,675 7,464 1,150	7,966 4,905 0	5,502 3,297 0	36,331 13,368 0	1,623,254 293,207 26,586
Total Project*					1,811,711	40,678	19,289	12,871	8,799	49,699	1,943,047
* FY96 total project funding includes \$16K reserved for other DoD reprogramming needs. ** An AF-616 is an internal transfer of funds between AF organizations.	t funding includes ı internal transfer c	\$16K reserver of funds betwe	d for other DoI en AF organiza) reprogrammi itions.	ing needs.						
Note: FY96 funding includes Milstar terminals. From FY97 on, funding includes Milstar terminals, SHF terminals and UHF SATCOM. FY96 funding for UHF SATCOM is in PE 0303606F (UHF Satellite Communications). Funding for SHF terminals (prior to FY95) is in PE 0303605F. Prior funding for all programs is included in total costs.	ng includes Milsta (UHF Satellite Co	r terminals. Frommunications	om FY97 on, fi). Funding for	ınding include SHF terminals	ss Milstar term (prior to FY9	inals, SHF ter 5) is in PE 03	minals and U 03605F. Prior	HF SATCOM funding for a	l. FY96 fundi Ill programs is	ng for UHF S. s included in t	ATCOM otal costs.
											·
Project 2487				Pe	Page 6 of 6 Pages	res		Exh	Exhibit R-2 (PE 0303601F)	0303601F)	
					0/47						

PE NUMBER: 0305110F

PE TITLE: Satellite Control Network (Space)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FEM JUS	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe l	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	ı,		PE NI 030	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	ттге atellite C	ontrol N	etwork (S	space)	ā R	РКОЈЕСТ 3276
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3276 Satellite Control Network	74,896	82,640	80,011	104,061	99,867	102,853	92,876	95,209	95,209 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	

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tracking operations in support of all major US launches. Air Force Space Command (AFSPC) performs operations and maintenance and Air Force Materiel Command requirements of the growing inventory of operational and developmental DoD, National, Civil, and foreign satellite systems. Improvement and Modernization efforts in command & control, communications, and range elements of the AFSCN will ensure DoD space systems are operationally ready to support the CINCs' warfighting ORD). This effort funds the development and acquisition of this integrated national satellite telemetry, tracking, commanding, and data relay capability. to meet the (U) The Air Force Satellite Control Network (AFSCN) mission is to fly operational USAF and other DoD satellites. The AFSCN also provides launch & early orbit AFMC) performs modernization and sustainment of the system to meet requirements validated by a HQ USAF approved Operational Requirements Document requirements.

telemetry, and commanding (TT&C) for the following operational satellite systems: DMSP, GPS, DSCS, DSP, FLTSAT, MILSTAR, UHF F/O, Skynet, NATO II/IV, and (U) The AFSCN consists of four segments: Command & Control, Communications, Range, and Support. The system is a global infrastructure of control centers, remote surveillance, navigation, communications, and weather satellite operations. The AFSCN is the DoD common user network that provides satellite state-of-health, tracking, tracking stations, and communications links that provide the highly reliable command and control, communications, and range systems required to support the nation's Classified Programs. (U) AFSCN Improvement and Modernization (I&M): AFSCN I&M is an on-going program of replacements and upgrades which will replace non-standard, unsupportable equipment with more reliable, maintainable and standardized hardware and software. This new equipment will enable AFSPC satellite operations to be performed with fewer, lower skilled personnel and will significantly reduce HW/SW maintenance costs. The principal efforts within this program are: Network Operations Upgrades (Command & Control System Upgrades), Communications Upgrades, and Range Upgrades.

(U) NETWORK OPERATIONS UPGRADES: The Network Operations Upgrades effort will develop a replacement for the current Command and Control System (CCS) segment of the Network. The current CCS provides approximately 130,000 real-time satellite contacts per year using an old IBM mainframe-based, centralized computer software/database maintenance and testing in AFSCN satellite operations centers, mission control complexes, scheduling complexes, and related training and operational software support facilities. The SSCS upgrades will be based on AFSPC's prioritized list of needed enhancements and will be implemented in a phased approach to meet communications backbone. It will use standard hardware and software elements and will provide improved capability with reduced operations and support costs. The mission critical computer systems which are to be replaced perform satellite telemetry processing and commanding, orbit data processing, network scheduling, and system. The new system, the Standard Satellite Control Subsystem (SSCS), will employ a server-workstation-based, open architecture system using a high speed

Project 3276

Page 1 of 8 Pages

Exhibit R-2 (PE 0305110F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhibit) DATE	TE Fahrijan, 1007
BUDGET ACTIVITY INC.		1 coldaly 133/
	PE NOMBER AND THE	PROJECT
r Sperational System Development	0305110F Satellite Control Network (Space)	lce) 3276
satellite program windows of opportunity. The current Resource Management System (RMS) which deconflicts and allocates network talemater is	(RMS) which deconflicts and allocates network to another	,
assets to support operational space vehicles, will be replaced with an automated extern which includes necessary and account to the control of the control o	which includes noticed and anotates life will be and	uy, uacking & command
ephemeris and events generation radio frequency interference detection and collision	with includes herwork resource scaleduling and orbit a	analysis functions to include
A CASA COSTA THE CONTROL OF THE CONT	mental received detection and control avoidance. This evolution offers fremendous potential for reducing satellite control	or reducing satellite control
Octar Costs unough enhanced commonating and standardization, simplified operations, and automation. Commercial off-the-shelf (COTS) hardware and software will be	, and automation. Commercial off-the-shelf (COTS) har	dware and software will be
procured for the new Resource Management System (network scheduling, which includes portions of snace safety and hazard analysis previously manifed E. Land	des portions of space safety and hazard analysis pravious	of the Property of the Party of
Operations facilities) and the SSCS. The software portions of these systems will be modified to meet APBPC's common set of manyors provinced by linet-real	idified to meet AFSPC's common set of network and its	sty provided by inter-Kange
oberational requirements	CHANGE OF THE STATE OF THE WORK OPERALI	ions and satellite control

- that integrates government and commercial networks as technology becomes available. Several standardization efforts are being implemented to improve and modernize the (U) COMMUNICATIONS UPGRADES: This effort will transition the current, costly point-to-point AFSCN communications network to a communications grid system standardize hardware and reduce O&M costs for performing multiplexing functions in the AFSCN, as well as provide an Asynchronous Transfer Mode (ATM) interface; automated, standardized digital COTS systems; a Centralized Control and Monitor (CC&M) system which will consolidate communications operations, provide remote control of tracking station equipment, and increase fault detection and isolation capabilities to reduce O&M costs; Wide Area Network Interface Units (WANIU) which communications and ground segment elements of the AFSCN, including: Archival recording systems to replace obsolete, manpower-intensive analog equipment with and Operational Switch Replacement (OSR) to provide increased capacity, reliability, data quality, and user access.
- standardize the remote tracking stations, upgrade and/or replace outdated equipment in order to reduce failures, correct operational deficiencies, and reduce operating and (U) RANGE UPGRADES: This effort will upgrade the current Automated Remote Tracking Station (ARTS) and other Range assets. Several integrated projects will sustainment costs.
- (U) This effort is in Budget Activity 7, Operational System Development, because it supports a fielded system.
- reliability, maintainability, operability, and capability of current systems. A combination of performance based specifications and commercial/industrial specifications and (U) ACQUISITION STRATEGY: The primary objective of the AFSCN I&M program is to reduce the cost of satellite control operations while maintaining or improving standards were used for these acquisitions and were tailored to state only the Government's minimum performance needs. All development contracts were competitively awarded and utilized commercial practices and streamlining to the maximum extent possible.

the NIC contractor will be responsible for inter-segment integration. Development upgrades will be designed to be flexible in meeting new satellite program requirements Network Integration Contract (NIC). Integration efforts had previously been spread across functional and contracting lines but with the new AFSCN contracting strategy while minimizing sustainment costs by taking advantage of development efforts in satellite control over a large number of government and non-government development The AFSCN utilized multiple development contracts in the past. Starting in FY96, a new streamlined contracting strategy was implemented with the award of three new activities. It is believed that these objectives can best be reached by developing systems with an open software design and a distributed system architecture using COTS contracts. The new strategy resulted in the Range & Communications Development Contract (RCDC), the Network Operations Upgrade Contract (NOUC), and the products wherever feasible.

Page 2 of 8 Pages

Exhibit R-2 (PE 0305110F)

	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	February 1997
BUDGET ACTIVITY 7 - Operatio	вирдет астилт 7 - Operational System Development	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	PROJECT 3276
(U) <u>FY 1996</u> (U) \$28,800	Network Operations Upgrades (Command and Control System Upgrades): (U) Initiated implementation of systems necessary to make network operations more affordable. Provides primary and back-up systems and	Upgrades): k operations more affordable. Provides primary and back-up s	ystems and
	necessary security controls. Consists of development and testing of Resource Scheduling, Basic Orbit Service, Control and Status, and Network Performance capabilities. Identified modifications for the Standard Satellite Control Subsystem (SSCS) for integration into the first Satellite Operations Complex (SOC). These upgrades will include upgrade of the Telemetry, Tracking, and Commanding system with SSCS in the consolidated communication, navigation, surveillance, weather, and RDT&E SOC's as prioritized by AFSPC. Scheduled program completion FY 01.	of Resource Scheduling, Basic Orbit Service, Control and Statu d Satellite Control Subsystem (SSCS) for integration into the fi of the Telemetry, Tracking, and Commanding system with SSI d RDT&E SOC's as prioritized by AFSPC. Scheduled program	s, and Network irst Satellite 3S in the 1 completion FY 01.
(U) \$ 31,300	Communications Upgrades: (U) Continued Communications Segment archival recorder system upgrades through integration and test of standardized COTS digital telemetry recorders. Continued development of the Centralized Control and Monitor (CC&M) network including design and integration of hardware and software. Continued development of COTS based hardware and software for WANIU by developing first unit prototypes. Began OSR studies and	n upgrades through integration and test of standardized COTS Monitor (CC&M) network including design and integration of oftware for WANIU by developing first unit prototypes. Began	digital telemetry hardware and OSR studies and
(U) \$14,796	Network Integration and Systems Engineering: (U) Continued system engineering and integration of hardware/software to meet evolving satellite program requirements at Operational Control Nodes (OCNs) and Remote Tracking Stations (RTS).	system engineering and integration of hardware/software to me temote Tracking Stations (RTS).	et evolving satellite
(U) \$33,600 (U) \$35,540 (U) \$13,500 (U) \$82,640	Network Operations Upgrades (U) Continue software developmentain an early schedule input an to Onizuka for use by the Inter-R modifications will augment or ch developing priority user-requeste Communications Upgrades: (U) Continue supporting hardwa Complete development of WANI Switch Replacement studies and Network Integration and Syste program requirements at OCNs a	nent of Resource Scheduling, Basic Orbit Service, and Network Performance capabilities. Begin effort to field a dissemination capability until RMS delivery. Initiate effort to move the primary orbit analysis functions of Rl ange Operations organization. Begin design of Standard Satellite Control Subsystem software modifications. ange software code in the government-furnished satellite control system. Scheduled completion FY02. Continual modifications to command and control systems. The and software integration of standardized COTS archival recorder units at Remote Tracking Stations (RTS). It and begin operational testing of prototype in AFSCN. Continue CC&M development. Continue Operational requirements analysis. Scheduled completion FY01. The Engineering: (U) Continue system engineering and integration of hardware/software to meet evolving sate and RTSs.	effort to field and functions of RMS modifications. The FY02. Continue ations (RTS). The Operational tevolving satellite
Project 3276	Pag	Page 3 of 8 Pages Exhibit R-2 (F	Exhibit R-2 (PE 0305110F)
		1571	

BUDGET ACTIVITY 7 - Operational System Development (U) \$25,185 Network Operations Upgrades (Command and Control System Upgrades): (U) \$25,185 Network Operations Upgrades (Command and Control System Upgrades): (U) \$26,700 Communications Upgrades: (U) \$25,700 Communications Upgrades: (U) \$26,700 Communications Upgrades: (U) \$21,900 Communications Upgrades: (U) \$21,900 Communications Upgrades: (U) \$21,900 Communications Upgrades: (U) \$21,900 Communications Upgrades: (U) \$21,205 Communications Upgrades: (U) \$11,205 Communications Upgrades: (U) \$11,205 Communications Upgrades (Command and Control & Status upgrades which provides a distributed, multi-processor architer phases memory and processing deficient 80,286 computers. Begin development of Remote Tracking Station Control & Status upgrades which provides a distributed, multi-processor architer phases memory and processing deficient 80,286 computers. Begin development of Remote Tracking Station Control of Range equipment from the Falcon AFB control node. Payoff is program requirements at OCNs and RTSs. (U) \$113,226 Network Integration and Systems Engineering: Continue system engineering an integration of hardware/software to meet evolving program requirements at OCNs and RTSs. (U) \$12,800 Network Operations Upgrades (Command and Control System Upgrades): (U) \$25,664 Degin Resource Scheduling integration and test of orbit service at back-up operational location. Complete second release of SSS (SBIRS and GPS. Initiate RMS trainer. (U) \$25,664 Operations Upgrades: (U) \$25,400 U) Regin development of antenna upgrades. Current 1960's technology antennas are very expensive to maintain. Modern designs	PENDLECT O305110F Satellite Control Network (Space) Network Operations Upgrades (Command and Control System Upgrades): O(U) Develop, test, and field Resource Scheduling, Basic Orbit Service, Control and Status, and Network Performance capabilities in primary locations. Begin implementation of additional orbit service capabilities into RMS. Complete initial version of the SSCS and delivery to satellite SPO. Communications Upgrades: (U) Continue supporting hardware and software installation of standardized COTS archival recorder units at RTSs. Continue integration and test of WANIUs into the AFSCN. Complete CC&M development and deliver baseline system. Continue development of Operational Switch Replacement. Range Upgrades: (U) Begin development of Remote Tracking Station Control & Status upgrades which provides a distributed, multi-processor architecture, and Monitor (RC3M) upgrades to provide centralized, remote control of Range equipment from the Falcon AFB control node. Payoff is to reduce Network Integration and Systems Engineering: Continue system engineering an integration of hardware/software to meet evolving satellite
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	Istallation of standardized COTS archival recorder units at RTSs. Continue integration and test of elopment and deliver baseline system. Continue development of Operational Switch Replacement. On Control & Status upgrades which provides a distributed, multi-processor architecture, and omputers. Begin development of operational Range & Communications Centralized Control remote control of Range equipment from the Falcon AFB control node. Payoff is to reduce Continue system engineering an integration of hardware/software to meet evolving satellite
	on Control & Status upgrades which provides a distributed, multi-processor architecture, and omputers. Begin development of operational Range & Communications Centralized Control remote control of Range equipment from the Falcon AFB control node. Payoff is to reduce Continue system engineering an integration of hardware/software to meet evolving satellite
	Continue system engineering an integration of hardware/software to meet evolving satellite
	Network Operations Upgrades (Command and Control System Upgrades): (U) Begin Resource Scheduling integration and test of orbit service at back-up operational location. Complete second release of SSCS and deliver to Communications Upgrades:
the-shelf to provide increased performance, reduced interference (requ	(U) Complete Archival Recorder System and CC&M development projects. Continue developing Operational Switch Replacement. Range Upgrades: (U) Begin development of antenna upgrades. Current 1960's technology antennas are very expensive to maintain. Modern designs are available off- the-shelf to provide increased performance, reduced interference (required by FCC allocation of adjacent frequencies to Commercial users), and
(U) \$14,197 Network Integration and Systems Engineering: (U) \$14,197 Octione System and Systems Engineering: (U) Continue System engineering an integration of hardware/software (U) \$104,061 Total	mutil-frequency alternatives. Continue C&S and RC3M efforts. Network Integration and Systems Engineering: (U) Continue system engineering an integration of hardware/software to meet evolving satellite program requirements at OCNs and RTSs. Total
Project 3276 Project 3276	Page 4 of 8 Pages Exhibit R-2 (PE 0305110F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA.	FION SE	IEET (R	-2 Exhi) (tig		DATE Fe	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development		PE NU 030	PE NUMBER AND TITLE 0305110F Satel	D TITLE Satellite Control Network (Space)	ontrol N	etwork (§	Space)		РРОЈЕСТ 3276
(U) B. Program Change Summary (\$ in Thousands)									
(U) Previous President's Budget(U) Appropriated Value(II) Adjustments to A proportional	FY 1996 78,830	Ħ	FY 1997 89,960 86,960	FY 1998 93,366	FY 1999 107,136	% %			
a. Cong Gen Reductions b. SBIR c. Omnibus and Other Above Threshold Reprogram d. Below Threshold Reprogramming	-1,321		-2,062 -2,258						
e. Recissions (U) Adjustments to Budget Years since FY 97 PB (U) Current Budget Submit/President's Budget	-518 74,896		82,640	-13,355 80,011	-3,075 104,061	75 51			
(U) Change Summary Explanation: FY98 and FY99 adjustments fund higher Air Force and DoD priorities. Schedule: Delivery of first complete SSCS delayed one year due to funding adjustments for higher Air Force priorities. Technical: Not Applicable.	orities. e to funding a	djustments fo	or higher Aii	r Force prior	ities.				
(U) C. Other Program Funding Summary (\$ in Thousands)									
(U) Other Procurement, AF; Budget Activity: 3, 24,094 AFSCN	FY 1997 17,144	FY 1998 32,197	FY 1999 40,025	FY 2000 24,961	FY 2001 34,447	FY 2002 47,022	FY 2003 47,350	To Compl Continue	Total Cost Continue
Related RDT&E (U) Not Applicable.									
(U) D. Schedule Profile FY 1996		FY	FY 1997		FY 1998	∞		FY 1999	
Project 3276		Page 5 of 8 Pages	Pages			Exhibit	Exhibit R-2 (PE 0305110F)	305110F)	

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RDT&E BUDGET ITEM	EM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET (R.	Z EXUID	t)		February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development			PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	ग्ता reflite Co	ntrol Netwo	ork (Space		PROJECT 3276
rades 1	3 4	-	2 3	4 I	2 3	4 I	2	4
Award RCDC Contract X Install OCN archival recorders Start OSR Study Archival CDR DTS archival 10C	×		×		>			
CC&M CDR CC&M IOC WANIU CDR WANIU IOC OSR CDR			×		× × ×	*		
Network Operations Upgrades Award NOUC Contract Complete Specification for SSCS SSCS design Resource Management CDR Resource Management IOC	×	×		××		×	•	
Range Upgrades Start Control & Status Start RC3M Start antenna upgrades				××		×		
Network Integration & Systems Engr. Award Network Integration Contract	×							
Project 3276		Page	Page 6 of 8 Pages			Exhibit R-2 (PE 0305110E)	PE 0305110	ú

RD.	RDT&E PROGRAM E		LEMENT/PROJECT	ROJECT	COSTE	COST BREAKDOWN (R-3)	OWN (R.	-3)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Developm	Il System De	evelopment			PE NUMBER AN 0305110F	PE NUMBER AND TITLE 0305110F Satell	ite Contro	ס דוזוב Satellite Control Network (Space)	(Space)		РРОЈЕСТ 3276
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	(S in Thousand	S								
				FY	FY 1996	FY 1997	FY 1998	FY 1999			
(U) Network Ops Upgrades (Command and Control Upgrades) (U) Communications Upgrades	pgrades (Commens Upgrades	and and Contro	l Upgrades)	28	2 8,8 00 31,300	33,600 35,540	25,185 26,700	12,800 26,664			
(U) Network Integrat	Nange Opgrades Network Integration and Systems Engineering	ns Engineering		14	14,796	13,500	13,226	14,197			
(U) Total				74	74,896	82,640	80,011	104,061			
(U) B. Budget Acquisition History and Plani	quisition Histor		ning Information (\$ in Thousands)	S in Thousan	(Spi						
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC**	Project Office <u>EAC</u>	Total Prior to FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	To Complete	Total Program
Product Development Organizations Multiple Multiple	nt Organizations Multiple	s Multiple	72,296	72,296		72,296	0	0	0	0	72,296
Lockheed Martin*	C/CPAF	Mar 96	;	186,404		0	35,540	41,600	66,464	42,800	186,404
Lockheed Martin Range Upgrades	C/CPAF TBD	Apr 96 TBD	41,179	71,585 150,600		00	33,600 0	25,185 0	12,800	0 140,000	71,585
Lockheed Martin C/CPAF May 96 *Assumes award of C&S, OSR, and RC3M upgrades **Only includes projections/options exercised to date	C/CPAF C&S, OSR, and l jections/options	May 96 RC3M upgrade exercised to dat	34,900 ss te	95,723		2,600	13,500	13,226	14,197	52,200	95,723
Support and Management Organizations N/A	ement Organizat	ions									
N/A	Organitzanons										
Project 3276				P.	Page 7 of 8 Pages	iges		EX	nibit R-3 (PE	Exhibit R-3 (PE 0305110F)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKDO	WN (R-3		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305110F Satellite Control Network (Space)	te Control	Network	(Space)		PROJЕСТ 3276
Government Furnished Property: N/A						
Subtotal: Product	FY 1996	FY 1997	FY 1998	FY 1999	To <u>Complete</u>	Total <u>Program</u>
Development	74,896	82,640	80,011	104,061	continuing	continuing
Subtotal: Support and Management						
Subtotal: Test and Evaluation						
Total Project	74,896	82,640	80,011	104,061	continuing	continuing
Project 3276	Page 8 of 8 Pages		Щ	ibit R-3 (Pl	Exhibit R-3 (PE 0305110F)	
					10000	

PE NUMBER: 0305111F

UNCLASSIFIED

PE TITLE: Weather Service

RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	HEET (R	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fel	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	.		PE NU 030	PE NUMBER AND TITLE 0305111F Weat	PE NUMBER AND TITLE 0305111F Weather Service	service			2	PROJECT 2738
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2738 Weather Service	5,321	4,919	9,057	8,424	11,723	12,004	12,217	12,499	12,499 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

(U) This effort is in Budget Activity 7, Operational System Development, because it supports software development and system tests associated with the upgrade and software to move to a more open, efficient computing environment; (e) Meteorological Operations Capability (MOC), which builds upon weather systems successfully replacement of currently operational systems, systems already in production, and systems with approved production funds in the DoD budget. This program provides Force and Army operations. Efforts include: (a) Cloud Depiction and Forecast System II (CDFS II), replaces logistically unsupportable mainframe computers at the for the modification, sustainment, and acquisition of meteorological hardware and software needed to support the observing and forecasting needs of worldwide Air Handling System II (SDHS II) will retrieve satellite data and meteorological fields from a centralized data base to a graphical user interface capable of 3-D and 4-D associated hardware to improve AFGWC's theater support capabilities; (c) Tactical Weather Radar (TWR), provides lightweight, portable Doppler weather radar to Air Force's Global Weather Central (AFGWC) and upgrades satellite data processing, cloud depiction and forecasting, and classified weather support functions for support combat operations worldwide; (d) Space Weather Analysis and Forecast System (SWAFS), replaces aging 50th Weather Squadron (AFSPC) hardware and operational commanders and national programs; (b) Global Theater Weather Analysis and Prediction System (GTWAPS), acquires theater weather models and integrated into operational C4I systems and supports the "train as you fight" concept by assuring fixed and deployable systems are the same. (f) Satellite Data visualization. Provides operators and commanders better situational awareness of conditions in their operating environment and battlespace.

FY 1996 (\$ in Thousands): 3

- CDFS II: Continue development of cloud depiction and forecast software.
 - GTWAPS: Cost executability analysis. \$ 399
- SWAFS: Develop technical alternatives. \$ 150 9
 - \$5,321

FY 1997 (\$ in Thousands): 3

- CDFS II: Continue development of cloud depiction and forecast software, prepare for FY98 production/integration contract award. (U) \$3,087
 - GTWAPS: Milestone decision and development contract award.
 - SWAFS: Conduct Milestone I/II/III documentation (U) \$1,607 (U) \$ 225 (U) \$4,919

Project 2738

Page 1 of 6 Pages

Exhibit R-2 (PE 0305111F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R-2 Exhib	(£)	DATE February 1997	997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305111F Weat	DE NUMBER AND TITLE 0305111F Weather Service	rvice		PROJECT 2738
 (U) \$\frac{\text{FY 1998 (\$\frac{\text{s in Thousands}}}{\text{CDFS II: Continue to create, rewrite and host software modules.}} (U) \$\frac{\text{S}}{\text{5}},118 \text{CDFS II: Continue development contract award.}} (U) \$\frac{\text{S}}{\text{5}},485 \text{GTWAPS: Continue development contract award.}} (U) \$\frac{\text{FY 1999 (\$\frac{\text{s in Thousands}}{\text{CONTINUE development of cloud depiction and forecast software.}}} (U) \$\frac{\text{FY 1999 (\$\frac{\text{s in Thousands}}{\text{CONTINUE development contract award.}}} (U) \$\frac{\text{S}}{\text{5}},630 \text{CONTINUE development contract award.}} (U) \$\frac{\text{S}}{\text{S}},501 \text{MOC (FS21): Begin software development.}} (U) \$\frac{\text{S}}{\text{5}},801 \text{MOC (FS21): Begin software development.}} (U) \$\frac{\text{S}}{\text{5}},424 \text{Total} 	d host software act award. estone I. id depiction and act award. hent. ernative study.	modules. I forecast softwa	: :			
 (U) B. Program Change Summary (\$\sec{s}\$ in Thousands) (U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions 	FY 1996 5,360 5,771	FY 1997 5,126 5,126 -122	FY 1998 9,347	FY 1999 8,728	Total <u>Cost</u> Cont.	
b. Small Business Innovative Research c. Below Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 President's Budget	-116 -39 -71 0 5,321	-85 -0 0 0 0 4,919	-290	-304	Cont.	
Project 2738	Pag	Page 2 of 6 Pages			Exhibit R-2 (PE 0305111F)	

RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305111F Weather Service			PR(PROJECT 2738
(U) Change Summary Explanation:					
Funding: Reductions in FY96 since the FY1997 Preside (\$-39), and rescisions (\$-71). FY97 changes are due to RDT&E (\$-103), Section 8138 Cancellation/Recession FY98 changes are due to AFMC zero based transfer (\$-general reductions for O&M/AF supply (\$-2) and WHS the Coral Convert Program (\$-223), inflation adjustmen	Funding: Reductions in FY96 since the FY1997 President's budget are due to Congressional reductions (\$-224), SBIRS (\$-116), inflation adjustments (\$-39), and rescisions (\$-71). FY97 changes are due to Congressional reductions in the FY97 Appropriations Act, Section 8136, General Reduction of FY97 RDT&E (\$-103), Section 8138 Cancellation/Recession of FY97 RDT&E (\$-5), Section 8037 RDT&E (\$-14), and Small Business Innovative Research (\$-85). FY98 changes are due to AFMC zero based transfer (\$-42) for mission support, ESC restructure of the Coral Convert Program (\$-213), inflation adjustment (\$-40), general reductions for O&M/AF supply (\$-3) and WHS (\$-1). FY99 changes are due to AFMC zero based transfer (\$-37) for mission support, ESC restructure of the Coral Convert Program (\$-223), inflation adjustment (\$-40), general reductions for O&M/AF supply (\$-3) and WHS (\$-1).	RS (\$-116), in ection 8136, G and Business In t Program (\$-2 \$-37) for missing (\$-1).	flation adjusteneral Redumnovative R 13), inflatio on support,	stments tection of FY9 esearch (\$-8' n adjustment ESC restruct	7 5). (\$-32), ure of
Schedule: N/A					-
Technical: N/A					
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) Other Procurement, AF 0 (35111F WSC 833070)	FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 0 10,596 19,147 28,868 28,743	FY 2002 30,764	FY 2003 31,694	To <u>Compl</u> Cont.	Total Cost Cont.
Only includes procurement funds for investment programs described in this R-2 Exhibit.	ibed in this R-2 Exhibit.				
Related RDT&E:					
 (U) PE #603707F, Weather Systems Advanced Development (U) PE #305160F, Defense Meteorological Satellite Program (U) PE #603434F, National Polar-orbiting Operational Environmental Satellite System (U) PE #207438F, Theater Battle Management C41 (U) PE #208006F Air Force Mission Planning System 	nental Satellite System				
Project 2738	Page 3 of 6 Pages	Exhibit F	Exhibit R-2 (PE 0305111F)	05111F)	

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RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305111F Weather Service	PROJECT 2738
(U) D. Schedule Profile FY 1996		FY 1999 1 2 3 4
Project 2738	Page 4 of 6 Pages Exhibit I	Exhibit R-2 (PE 0305111F)

RD	T&E PRO	GRAM EI	EMENT	RDT&E PROGRAM ELEMENT/PROJECT		COST BREAKDOWN (R-3)	OWN (R	-3)	DATE	February 1997	266
вирсет Астиитү 7 - Operational System Development	l System E)evelopme	ıt.		PE NUMBI 03051	PE NUMBER AND TITLE 0305111F Weather Service	her Servic	e,			PROJECT 2738
(U) A. Project Cost Breakdown (\$ in Thousa	st Breakdown	(\$ in Thousan	(spu								
				FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) 1st Article Development	lopment				0	0	142	99	9		
(U) System Software Integration	e Integration				0	214	1,003	312	2		
(U) System Engineering Support	ring Support			1,300	00	801	1,147	1,794	4		
(U) Contractor Engineering Support	neering Suppor	E		71	145	200	266	2,258	~		
(U) Soltware Development	opment			3,439	39	3,074	5,517	3,638	∞		
(U) Havel	ement Cumon			147	4	87	105	111			
(U) Lahoratory Support	onen support			7	067	243	146	245	so «		
dio Crommon (a)	100			1	o	>	0	-	0		
(U) 10tal				5,321	21	4,919	9,057	8,424	4		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition Histo	ry and Planni	ng Information	ı (S in Thousar	(spi						
Performing Organizations:	zations:										
Contractor or	Contract										
Government Performing	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Rudget	Rudaet	Budget to	Total
	Vehicle	<u>Date</u>	EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	rogram
Product Development Organizations	t Organization	S									
Phillips Lab	MIPR	May 94	270	270	270	0	0	0	0	0	270
CalTech	LOE	Jun 94	1,880	1,880	1,172	0	0	346	362	0	1.880
CSC	LOE	Jan 94	2,494	2,494	2,127	0	0	182	285	0	2.594
GTE	FFP/PR	Oct 90	13,064	13,064	13,064	0	0	0	0	0	13,064
PRISM	LOE	Jan 93	3,844	3,844	3,497	0	0	201	414	0	4,112
(Raytheon) PRISM (Hughes)	LOE	Jan 93	3,400	3.400	3.121	c	c	183	345	c	0376
Sterling	CPAF	Jun 95	21,173	21,173	4,600	4,751	3,186	5,153	3,400	0	21,173
Project 2738				ď	Page 5 of 6 Pages	100		1	המילים מילו	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	
					185 2 01 01 14	Xeo		LXL	באווטוו ה-5 (רב עאטט ו ו ור	03021117)	

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RDT	RDT&E PROGRAM EL	SRAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE		
BUDGET ACTIVITY 7 - Operational System Developmen	System Do	evelopmer	=		PE NUMBE 030511	PE NUMBER AND TITLE 0305111F Weath	DE NUMBER AND TITLE 0305111F Weather Service		Ĭ 	February 1997	997 PROJECT
Contractor or	Contract									,	30
	Method/Type or Funding Vehicle	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
ther Svc I related	MIPR	4FY95	2,900	2,900	2,900	FY 1996 0	FY 1997 0	FY 1998 0	FY 1999 0	Complete 0	Program 2,900
work)											
Hughes	MIDD	Sep 95	1,682	1,682	1,682	0	0	0	0	0	1.682
ATSP/SM-ALC CCPL/ESC	MIPR	Jan 95 TBD	TBD TBD	TBD TBD	001	0 0	0 257	0 1,556	0 1,826	0 4,988	100 8,627
Support and Management Organizations	nent Organizati	ous									
Electronic					632	150	273	701	24.0		(
Systems Center							757	174	343	Cont	Cont
Snace and Missile					,						
Center (SMC)					0	250	250	267	285	Cont	Cont
MITRE/ Aerospace TEMS					1009	170	903	975	1,161	Cont	Cont
Test and Evaluation Organizations Not Applicable	rganizations										<u> </u>
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	isition History	and Planning	Information	Continued (\$ i	n Thousands						
Government Furnished Property: Not Applicable	ed Property:	Not Applicabl	υ								
Subtotal Product Development	lopment					4,751	3,443	7,621	6.633	Cont	Cont
Subtotal Support and Management Subtotal Test and Evaluation	Management luation					570 0	1,476	1,436	1,791	Cont.	Cont.
Total Deciset						>	>	>	>	Cont.	Cont.
Total Floject						5,321	4,919	9,057	8,424	Cont.	Cont.
Project 2738				Pa	Page 6 of 6 Pages	Ş		П YA	Exhibit R.3 (DE 0306111E)	13054445)	
					1587				10000	7000111L)	

PE NUMBER: 0305114F

UNCLASSIFIED

PE TITLE: Traffic Cutrl/Approach/Landing Sys

RDT&E BUDGET II	FEM JUS	TIFICA	TION SI	HEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit		DATE		1
BUDGET ACTIVITY								D L	repruary 1997	786
7 - Operational System Development	ıt		9E N	PE NUMBER AND TITLE 0305114F Traffi	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	tr!/Appro	ach/Lan	ding Sys		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	5,440	7,643	6,571	925	7,160	5,739	5,824	5,968	Continuina	TBD
2026 System Support	195	374	267	279	252	266	252	262	i	TRA
3587 Precision Landing Development	5,245	7,269	6,304	646	806'9	5,473	5,572	5,706		TBD
Quantily of RDT&E Articles	0	10/20k ea	0	0	0	0	0	0	- 1	0

(U) A. Mission Description and Budget Item Justification

This program is in budget activity 7 - Operational System Development, because it upgrades avionics in currently fielded weapon systems. This effort was originally Joint Precision Approach and Landing System (JPALS) program which will result in identification of the follow-on to the ILS and PAR systems. Project 2026 funds national precision landing standard, the effort is now being redirected to develop a replacement box for ILS avionics to sustain precision landing capability until the (ICAO) for protection from interference problems forecast to occur after 1998. This budget activity will also accomplish an Analysis of Alternatives (AOA) for the established for development of Military Microwave Landing System Avionics (MMLSA) and acquisition of the commercially developed Commercial Microwave Landing System Avionics (CMLSA). It was originally part of a twenty-year program to transition Air Force operations from the use of Precision Approach Radar ongoing liaison and interagency cooperative studies, between the USAF ATCALS program office and various organizations to include other Services, the Federal (PAR) and Instrument Landing System (ILS) to the Microwave Landing System (MLS) for precision approach and landing. With termination of the MLS as the follow-on capability is chosen. The current Air Force ILS receivers do not meet the new specification required by the International Civil Aviation Organization Aviation Administration (FAA) and ICAO.

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Page 1 of 13 Pages

Exhibit R-2 (PE 0305114F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (I	3-2 Exhibi	9	DATE	4004
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traffi	गग∟E Fraffic Cntrl	/Approach/L	PENUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	rebludiy 1997
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY 1997 President's Budget 3,968 (U) Appropriated Value 3,968 (U) Adjustments to Appropriated Value -275 a. Cong Reductions -130	8 4,007 8 3870 -129	FY 1998 1,835	F <u>Y 1999</u> 1,164	Total Cost TBD	
bus or Other Above Threshold Reprogram 1, 2 Threshold Reprogramming 2 to Budget Years Since FY 1997 PB President's Budget 5,	3,999 3 7,643	4,736 6,571	-239 925	TBD	
(U) Change Summary Explanation: Funding: Funding decreases in FY96, FY97, FY98 and FY99 due to higher AF funding priorities Funding increase of \$1.747 in FY96 was for the Joint Precision Approach and Landing System (JPALS) program; increase of \$3.999M in FY97 is for the Air Mobility Command Contingency Precision Approach and Landing Capability (AMC PAC); increase of \$4.7M in FY98 is for JPALS.	higher AF funding pric M in FY97 is for the A	rities Funding i ir Mobility Com	ncrease of \$1.74 mand Contingen	7 in FY96 was for th cy Precision Approc	he Joint Precision ach and Landing
Schedule: N/A					
Technical: N/A (U) C. Other Program Funding Summary (\$\mathcal{S}\$ in Thousands)					
(U) Aircraft Procurement AF Budget Activity 5, 2,460 147 Weapon System Code 3587	FY 1998 FY 1999 150 157	FY 2000 E 4821	FY 2001 4790 FY 2002 4907	02 FY 2003 07 4908	To Total Compl Cost cont TBD
	Page 2 of 13 Pages		Ĕ	Exhibit R-2 (PE 0305114F)	5114F)
	1584				

RDT&E BUDGET		M JUST	FICA	NOT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 E)	chibit			DATE F	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	ment			1.	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	ND TITLE Traffic	Cntrl/	Approac	h/Land	ling Sy	Ş	
(U) D. Schedule Profile												
< <	yeard	FY 1996 2 3	4		FY 1997 2 3	4	-	FY 1998 2 3	4	-	FY 1999 2 3	4
 (U) Milestone III (U) Contract Milestones (U) Award Precision Landing ECO (U) Initial MMLS Delivery (U) Initial TRV Delivery 	×		×				×				×	
 (U) Test and Evaluation Milestones TRV First Article Complete TRV Operational Testing Complete (U) Other (U) MMLS IOC (U) CMLSA Depot Activation 			×		× ×	×						
					:							
				Page	Page 3 of 13 Pages				Exhibit	R-2 (PE	Exhibit R-2 (PE 0305114F)	

RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOIL	HEET (R	-2 Exhi	bit)		DATE EAL	Fobrason, 1007	707
BUDGET ACTIVITY 7 - Operational System Development	-		PE NI 030	PE NUMBER AND TITLE 0305114F Traffi	⊓⊓LE raffic Cn	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	ach/Lan	ding Sys	oldaly 15	2026
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2026 System Support	195	374	267	279	252	266	252	262	Continuing	TBD
(U) A. Mission Description and Budget Item Justification This continuing effort funds ongoing liaison and interagency cooperative studies, as well as interoperability analyses between the USAF ATCALS program office and various organizations which include the other services, the FAA, and the ICAO. Continues mission support for the ATCALS programs including several joint efforts with the FAA. RDT&E funds are used to resolve or minimize technical interface problems associated with interoperability between existing or planned DoD/FAA ATCALS equipment and capabilities.	stification and interagenc services, the l	y cooperativ FAA, and the	e studies, as FICAO. Co interface pr	well as inter ntinues miss oblems asso	operability a ion support i	unalyses betv for the ATC,	veen the US ALS prograr ty between e	AF ATCAL! ns including existing or pl	S program os several join lanned DoD/	ffice and t efforts FAA
(U) FY 1996 (\$\frac{\psi}{10}\$ in Thousands): - (U) \$48 Support for all ATCALS projects (FY96/1) - (U) \$70 Conduct interoperability and interface evaluation and interfac	i projects (FY96/1) and interface evaluations (FY96/1) precision landing system studies for the Joint Special Operations Command (JSOC) (FY96/2)	96/1) evaluations iing system	(FY96/1) studies for tl	ne Joint Spec	ial Operatio	ns Commano	ı (ISOC) (F	Y96/2)		
 (U) FY 1997 (\$ in Thousands): (U) \$67 Support for all ATCALS projects (FY97/1-4) (U) \$181 Continue interoperability and interface evaluations (FY97/1-4) (U) \$126 Support for the portable precision landing system studies for the Joint Special Operations Command (JSOC) (FY97/2-4) (U) \$374 Total 	projects (FY97/1-4) and interface evaluations (FY97/1-4) precision landing system studies for th	97/1-4) e evaluations iing system	(FY97/1-4) studies for th) ne Joint Spec	ial Operatio	ns Commanc	1 (JSOC) (F	Y97/2-4)		
(U) FY 1998 (\$ in Thousands): - (U) \$47 Support for all ATCALS - (U) \$105 Conduct interoperability of the precision - (U) \$115 Support for the precision - (U) \$267 Total	projects (FY98/1-4) and interface evaluations (FY98/1-4) landing system studies for the Joint Special Operations Command (JSOC) (FY98/1-4)	98/1-4) evaluations em studies fo	(FY98/1-4) or the Joint S	pecial Opera	utions Comm	nand (JSOC)	(FY98/1-4)			
Project 2026			Page 4 of 13 Pages	3 Pages			Exhibi	Exhibit R-2 (PE 0305114F)	305114F)	

RDT&E BUDGET ITEM JUSI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhib	it)	DATE Februa	February 1997
в⊔рбет Асті∨іт 7 - Operational System Development		PE NUMBER AND TITLE 0305114F Traff	o ππ∟E Traffic Cntı	р ппе Traffic Cntrl/Approach/Landing Sys	anding Sys	PROJECT 2026
 (U) FY 1999 (\$\frac{\mathbf{s}}{\text{in Thousands}}\$: (U) \$\frac{\mathbf{s}}{\text{5}}\$ Support for all ATCALS projects (FY99/1-4) (U) \$\frac{\mathbf{s}}{\text{120}}\$ Conduct interoperability and interface evaluations (FY99/1-4) (U) \$\frac{\mathbf{s}}{\text{109}}\$ Support for the precision landing system studies for the Joint Special Operations Command (JSOC) (FY99/2-4) (U) \$\frac{\mathbf{s}}{\text{279}}\$ Total 	9/1-4) evaluations (FY99) m studies for the Jo	/1-4) oint Special Op	erations Comma	nd (JSOC) (FY99	(2-4)	
(U) B. Program Change Summary (\$ in Thousands)				~		
(U) FY 1997 President's Budget (U) Appropriated Value	FY 1996 283 283	FY 1997 456 423	FY 1998 287	FY 1999 298	Total <u>Cost</u> TBD	
 (U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998 President's Budget 	-88 -79 -9 195	-49	-20 267	-19 279	TBD	
(U) Change Summary Explanation: Funding: Programmatic adjustments						
Schedule: N/A						
Technical: N/A						
Project 2026	Page .	Page 5 of 13 Pages		Ш	Exhibit R-2 (PE 0305114F)	14F)

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December Activity Per Number Annual System Development Per Number Annual System Development Per Number Annual System Pe	RDT&E BUDGET ITEM	EM JUSTIFICATION SHEET (R-2 Exhibit)	TION SH	EET (R	-2 Exhit	oit)		DATE Feb	February 1997	97
C. Other Program Funding Summary (\$ in Thousands). None FY 1996 FY 1997 FY 1999 FY 2000 FY D. Schedule Profile 1 2 3 4 1 2 3 4 1 Contract Milestones N/A Contract Milestones First Article Testing Complete Operational Testing Complete X X X X X Yes Operational Testing Complete Operational Testing Complete	UDGET ACTIVITY ′ - Operational System Development		PE NUI 0305	MBER AND T	itte raffic Cnt	:rl/Appro≀	ach/Lanc	ding Sys	PR 2(PROJECT 2026
D. <u>Schedule Profile</u> P. 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY B. 1 2 3 4 1 2 3 4 1 Contract Milestones N/A Contract Milestones N/A Contract Milestones N/A Contract Milestones First Article Testing Complete Operational Testing Complete X X X X	U) C. Other Program Funding Summary (\$ in Tho	sands) None								
D. Schedule Profile FY 1995 Acquisition Milestones N/A Contract Milestone Contract Milestone First Article Testing Complete Operational Testing Complete Schedule Testing Complete Total Article Testing Complete Total	ଧ		FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
Acquisition Milestones N/A Acquisition Milestones N/A Contract Milestone Initial TRV Delivery Test and Evaluation Milestones First Article Testing Complete Operational Testing Complete X X X X X X X X X X X X X										
Initial TRV Delivery Test and Evaluation Milestones First Article Testing Complete Operational Testing Complete X X	-		1 2 E	<u>(* 1997</u> 3	4	X 199	8) E 4	-	FY 1999 2 3	4
First Article Testing Complete Operational Testing Complete	ي ر				×					
			×		×					
Project 2026.	roject 2026		Page 6 of 1.	3 Pages			Exhibi	Exhibit R-2 (PE 0305114F)	305114F)	

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RDT&E PROGRAM ELEMENT/PROJECT	COST BREAKDOWN (R-3)	KDOWN (R-	3)	DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traff	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	proach/Lar	ıding Sys		РРОЈЕСТ 2026
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>						
FY 1996	6 FY 1997	FY 1998	FY 1999			
(U) System Engineering		70	73			
Contract Engineering Test and Evaluation Support		84	87			
(U) Program Management Support (U) Travel (U) Total	20 20 20 10 25 95 374	10 15 267	12 15 279			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	<u>ds)</u>					
Performing Organizations: AFMC, ESC, Hanscom AFB, MA manages the overall ATCALS effort. MITRE Corporation, Bedford, MA, provides technical engineering support	rall ATCALS effort.	MITRE Corporati	on, Bedford, M/	A, provides te	chnical engin	eering
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	Total Total Prior to Budget FY 1996 FY 1996	get Budget <u>FY 1997</u>	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations: ESC/TG - No contracts in excess of \$1.0M						
Support and Management Organizations SM-ALC						
Test and Evaluation Organizations N/A: NO TESTING ACTIVITIES						
Project 2026	Page 7 of 13 Pages		Exhil	Exhibit R-3 (PE 0305114F)	305114F)	
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT COST BRI	EAKDOW	N (R-3		DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traffi	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	trl/App	oach/Lar	nding Sys	· Camila	РВОЈЕСТ 2026
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	nued (\$ in Thousands)						
Government Furnished Property:							
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to FY 1996	Budget FY 1996 F	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property N/A							
Support and Management Property N/A							
Test and Evaluation Property N/A							
Subtotal Product Development N/A Subtotal Support and Management N/A Subtotal Test and Evaluation N/A							
Total Project							
Project 2026	Page 8 of 13 Pages			Exhib	Exhibit R-3 (PE 0305114F)	3 <u>0</u> 5114F)	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	ritle raffic Cnt	trl/Appro	ach/Lanc	ling Sys	⊕ 6	РРОЈЕСТ 3587
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3587 Precision Landing Development	5,245	7,269	6,304	646	6,908	5,473	5,572		5,706 Continuing	тво

(U) A. Mission Description and Budget Item Justification

DoD and the Department of Transportation (DOT) have a goal to develop and acquire a common civil/military precision approach and landing system that is capable of operating with Category I, II, or III signal guidance accuracy. The International Civil Aviation Organization (ICAO) and NATO designated worldwide implementation for PLS for January 1998 with MLS as the standard. Due to the emergence of the Global Positioning System (GPS), as a more cost effective solution, the Air Force's short-term operational deficiencies. FY96/97 funding will also accomplish an Analysis of Alternatives (AOA) for the Joint Precision Approach and Landing System precision landing development has been redirected to develop a replacement box for ILS to support a precision landing capability until GPS becomes available. The density of FM radio stations. The Air Force has a worldwide deployment commitments and large numbers of it's aircraft have a requirement for compliance with the ICAO Standards and recommended practices. In FY97, the Air Force began a new effort to install the precision landing system receiver on its C-17 aircraft to solve (JPALS) program. The primary objective of the AOA is to conduct a comprehensive evaluation of precision landing alternatives in the context of relevant scenarios replacement box capability will allow DoD to meet the ICAO requirements for FM frequency protection. This is especially critical in Europe where there is a high and user requirements, and to recommend a preferred solution(s) to replace ILS and precision approach radar systems.

FY 1996 (\$ in Thousands): 5

- Development of a precision landing capability to include Differential GPS (FY96/1) National Precision Approach Strategy Study (FY96/2) \$2,640 \$208
 - \$650
- Perform platform integration and system engineering analyses (FY96/2)
 Begin Joint Precision Approach and Landing System (JPALS) Analysis of Alternatives (AOA) (FY96/3) \$1,747
 - \$5,245 99

FY 1997 (\$ in Thousands): 3

- Development of a precision landing capability to include Differential GPS (FY97/1-4) \$2,750 3
 - Perform platform integration and system engincering analyses (FY97/1-4) \$520 3
- Begin work on AMC PAC (includes cost of RDT&E articles) (FY97/2-4) \$3,999 (U) \$3,999 (U) \$7,269

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Project 3587

Exhibit R-2 (PE 0305114F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhib		DATE	4004
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traff	Traffic Cntr	//Approach/l	PROJ 0305114F Traffic Cntrl/Approach/Landing Sys 358	9 1997 PROJECT 3587
 (U) FY 1998 (\$\frac{\psi}{\psi}\$ in Thousands): (U) \$\frac{\psi}{\psi}\$ 970 (U) \$\frac{\psi}{\psi}\$ 126 (U) \$\frac{\psi}{\psi}\$ 126 (D) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\frac{\psi}{\psi}\$ 126 (EV) \$\f	rde Differential GP analyses (FY98/1-4 13860)	S (FY98/1-2))			
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$105 Continue to perform platform integration and system engineering analyses (FY99/1-4) - (U) \$541 Continue PLS flight certification (FY99/1-4) - (U) \$646 Total	engincering analyse	s (FY99/1-4)			
(U) B. Program Change Summary (\$ in Thousands)					
(U) FY 1997 President's Budget 3,685 (U) Appropriated Value 3,685 (U) Adjustments to Appropriated Value	F <u>Y 1997</u> 3,551	FY 1998 1,548	FY 1999 866	Total <u>Cost</u> TBD	
a. SBIR b. Omnibus or Other Above Threshold Reprogram c. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB -187 (U) FY 1998 President's Budget	3,999 -281 7,269	4,900 -144 6,304	-220 646	TBD	
(U) Change Summary Explanation: Funding: Funding decreases in FY96 through FY99 are due to higher AF funding priorities Funding increase of \$1.747 in FY96 was for the Joint Precision Approach and Landing System (JPALS) program; increase of \$3.999M in FY97 is for the Air Mobility Command Contingency Precision Approach and Landing Capability (AMC PAC); increase of \$4.9M in FY98 is for JPALS (These funds will be reprogrammed into PE 0603860 in FY98).	F funding priorities n FY97 is for the A funds will be repr	Funding increa ir Mobility Con ogrammed into F	se of \$1.747 in F imand Contingen PE 0603860 in FY	Y96 was for the Joint Pre cy Precision Approach a '98).	ecision nd Landing
Schedule: N/A					
Technical: N/A					
Project 3587	Page 10 of 13 Pages	:	Û	Exhibit R-2 (PE 0305114F)	Œ

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION S	HEET (R	-2 Exhil	ojt)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t	PE NI 030	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	⊓⊓LE raffic Cn1	trl/Appro	ach/Land	ding Sys	g w	РКОЈЕСТ 3587
(U) C. Other Program Funding Summary (S in Thousands)	Thousands)								
(U) Aircraft Procurement AF Budget Activity 5, Weapon System Code 3587	FY 1996 FY 1997 2,460 147	997 FY 1998 147 150	FY 1999 157	FY 2000 4821	FY 2001 4790	FY 2002 4907	FY 2003 4908	To Compl cont	Total Cost TBD
(U) D. Schedule Profile									
(U) Acquisition Milestones:	FY 1996 2 3 4	1 2 E	FY 1997 2 3	4	FY 1998 2 3	3 8	-	FY 1999 2 3	4
(U) Milestone III (U) Contract Milestones (U) Award Precision Landing ECO (U) Initial MMLS Delivery	×							×	
(U) Test and Evaluation Milestones N/A (U) Other (U) MMLS IOC (U) CMLSA Depot Activation	×	×							
		by II and	113 Been				Evelitie D 2 (DE 020E44AE)	00 F 4 4 A E	
Project 338 /		rage 11 of 13 rages 1593	13 Fages			QUXII	I R-2 (PE U	3051 14F)	
		103.	•						

RD	RDT&E PROGRAM E		EMENT/F	LEMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	OWN (R-	3)	DATE F	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development	al System Do	evelopmer	1		PE NUMBER 030511	PE NUMBER AND TITLE 0305114F Traffic	Cntrl/Ap	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	nding Sys		PROJECT 3587
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (\$ in Thousand	(§)								
				FY 1996		FY 1997	FY 1998	FY 1999			•
	Primary Hardware Developmen Test and Evaluation Support Engineering/Technical Support	*		2,640 206 525		2,650	970 308 90	545 89			
	ration Efforts gement Support ternatives (JPAL	S)		90 1,747 37		231 90 3,999 30	20 4,900 16	12			
(U) Total				5,245		7,269	6,304	646			
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	quisition Histor	y and Plannin	g Information	(\$ in Thousand	(S)						
rerioi ming Organ	iizatioiis:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to <u>Complete</u>	Total <u>Program</u>
Product Development Organizations GEC Marconi FPIF	ent Organizations FPIF	i Jun 93	19.4	19.4	9.3	2.6	5.5	1.5	0.5	Continue	TBD
Support and Management Organizations None	ement Organizat	ions									
Test and Evaluation Organizations FAA Test Center MIPR	Organizations MIPR	May 97	300	300	0	0	300	0	0	0	300
Project 3587				Pag	Page 12 of 13 Pages	ges		Exh	Exhibit R-3 (PE 0305114F)	0305114F)	
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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BI	REAKDO	WN (R-		DATE F.	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305114F Traffi	AND TITLE F Traffic	PE NUMBER AND TITLE 0305114F Traffic Cntrl/Approach/Landing Sys	roach/La	nding Sy		РВОЈЕСТ 3587
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	S in Thousands						
Government Furnished Property:							
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property: N/A							
Support and Management Property: N/A							
Test and Evaluation Property: N/A							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation							
Total Project							
Project 3587	Page 13 of 13 Pages	Si		Exhi	Exhibit R-3 (PE 0305114F)	0305114F)	

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PE NUMBER: 0305119F

UNCLASSIFIED

PE TITLE: Medium Launch Vehicles (Space)

RDT&E BUDGET IT	EM JUS	TIFICA	TION S	YEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305119F Media	DE NUMBER AND TITLE 0305119F Medium Launch Vehicles (Space)	aunch Ve	ehicles (9	Space		PROJECT 6244
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
624A Medium Launch Vehicle	16,614	12,720	5,719	14,623	10,470	7,750	5,646	2,117	0	445,215
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Canaveral AFS, FL and at Vandenberg AFB, CA. The RDT&E funding for engineering support of active launch programs and post-flight assessment of DoD ELVs to maintain their high reliability. The preceding tasks require the funds to be in Budget Activity 7, Operational Systems Development. Vehicles (ELVs). The Medium Launch Vehicle (MLV) program provides sustainment, procurement and launch of DoD ELVs, including Atlas II and Delta II at Cape National Security requirements dictate a continuing, highly reliable means of placing critical Department of Defense (DoD) satellites into required orbits. Assured access to space, directed by the President in the National Security Launch Strategy, will be accomplished through the use of a robust mix of Expendable Launch

(U) FY 1996:

Complete Delta II range safety required facility upgrades this year, first flight with new upgrades this year (U) \$5,477

Continue STP (ARGOS) mission integration

West Coast Atlas II activation continues (U) \$ 1,117

Complete GPS IIR mission integration (U) \$ 752

Base support and environmental programs (U) \$ 5,787 (U) \$ 3,414

Sustaining engineering and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes 3, 17, and 36 and supporting facilities

Total (U) \$16,614

FY 1997: 3

Base support and environmental programs (U) \$ 5,104

West Coast Atlas II activation continues (U) \$ 1,070

Delta II range required facilities upgrade **DSCS** integration (U) \$ 1,589 (U) \$ 3,174

Sustaining engineering and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes 3, 17, and 36 and supporting facilities

Total (U) \$12,720

Project 624A

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Exhibit R-2 (PE 0305119F)

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RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATION	N SHEET	(R-2 Exhib	jt)	DATE February 1997	v 1997
BUDGET ACTIVITY 7 - Operational System Developme	stem Development		PE NUMBER AND TITLE 0305119F Medi	ID TITLE Medium La	PE NUMBER AND TITLE 0305119F Medium Launch Vehicles (Space)	es (Space)	PROJECT 624A
(U) FY 1998: - (U) \$ 844 - (U) \$ 598 - (U) \$ 702 - (U) \$ 1,475 - (U) \$ 2,100 - (U) \$ 5,719	Delta II range required facilities upgrade Sustaining engineering and mission supp 17, and 36 and supporting facilities West Coast Atlas II activation continues DSCS integration Delta II systems integration Total	port for MLV la	unch facilities, i	nfrastructure, an	d launch operatio	facilities upgrade and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes 3, ing facilities ivation continues ution	complexes 3,
(U) <u>FY 1999</u> : - (U) \$ 500 - (U) \$ 8,721 - (U) \$ 1,200 - (U) \$ 702 - (U) \$ 3,500 - (U) \$ 3,500 - (U) \$ 3,500	Delta II range required facilities upgrade Sustaining engineering and mission supp 17, and 36 and supporting facilities Delta II systems integration West Coast Atlas II activation continues DSCS integration	sort for MLV la	ınch facilities, i	nfrastructure, an	d launch operatio	facilities upgrade and mission support for MLV launch facilities, infrastructure, and launch operations includes space launch complexes 3, ing facilities ttion ivation continues	complexes 3,
 (U) B. Program Change Summary (\$\scrick{\scrick}\$\) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional Gen Reductions 	 (U) B. Program Change Summary (\$\\$\\$\) in Thousands) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional Gen Reductions 	FY 1996 20,683 21,898 - 429	FY 1997 13,368 13,368 -335	<u>FY 1998</u> 13,073	<u>FY 1999</u> 22,993	Total	
 b. SBIR c. Omnibus or Other Above Threshold Reprid. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 (U) Current Budget Submit/President's Budget 	 b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions Adjustments to Budget Years Since FY 1997 PB Current Budget Submit/President's Budget 	- 786 -4,063 -6 16,614	-301 -12 12,720	-7,354 5,719	-8,370 14,623	445,215	
Project 624A		Page	Page 2 of 5 Pages			Exhibit R-2 (PE 0305119F)	JF)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHE	ET (R-2 E	xhibit		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMB 03051	PE NUMBER AND TITLE 0305119F Mediu	ım Laur	PENUMBER AND TITLE 0305119F Medium Launch Vehicles (Space)	s (Space)		РРОЈЕСТ 624A
(U) Change Summary Explanation: FY98/99 cuts to support AF FY98 BES - Reflects IBR and SSPC reductions							
Schedule: Not Applicable Technical: Not Applicable							
(U) C. Other Program Funding Summary (\$ in Thousands)						Ę	F -40 -40
EY 1996 FY 1997 FY 1998 FY 1998 (U) Missile Procurement, Air Force 177,630 174,878 218,498 214, (U) Space & Missile Rocket Propulsion (PE #603302F) (U) Evolved Expendable Launch Vehicle (EELV, PE #603853F, 0604853F, 0305953F)	FY 1998 FY 1999 218,498 214,121 853F, 0305953F)	FY 2000 109,539	FY 2001 65,359	FY 2002 38,699	FY 2003 11,153	Complete 0	10tal <u>Cost</u> 2,732,831
(U) D. Schedule Profile							
(U) Delta/GPS Launch X X X X (U) Delta/STP Launch	FY 1997 1 2 3 X XX	997 3 4 XX X X	-	FY 1998 2 3 XX	4 X 1 X	FY 1999 2 3 XX	4
(U) Atlas/DSCS Launches (U) Atlas West Coast Pad Activation X X X X	×	×	×	×		×	
	6	ļ		L	1	7000 T	·
Project 624A	Page 3 of 5 Pages	ages			XNIDIT K-2 (F	Exhibit K-2 (PE 0305119F)	
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RDT	RDT&E PROGRAM EL	MELEM	EMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	OST BR	EAKDO	WN (R-	3)	DATE		1001
BUDGET ACTIVITY 7 - Operational System Developmen	System Develo				PE NUMBER AND TITLE 0305119F Medi	IND TITLE	n Launch	PE NUMBER AND TITLE 0305119F Medium Launch Vehicles (Space)	Space	rebruary 1997 PROJ	1997 PROJECT 624A
(U) A. Project Cost Breakdown (\$ in Thousands)	Breakdown (\$ in T	(housands)		FY 1996	FY 1997		FY 1998	FY 1999	6		
(U) Primary Hardware Development (U) Total	re Development			16,614	12,720		5,719 5,719	14,623	<u>ព្</u> ឋា		
(U) B. Budget Acquisition History and Plannin	isition History and	Planning Info	g Information (\$ in Thousands)	(Thousands)							
Performing Organizations:	ations:										
Contractor or Government	Contract Method/Type or	Award or	Performing	Project	Total						
Activity	Funding Vehicle	Obligation <u>Date</u>	Activity EAC	Office <u>EAC</u>	Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations	Organizations	,									
Lockheed Martin McDonnell Douglas	SS/FFP SS/FFP	Jun 88 Sep 87	X/X X/A	X/X X/A	70,817 205,203	110 67	1,078	2,100	3,500	3,000	80,605
Aerospace McDonnell Douglas	FFP	Apr 93	A/A	4 /2	14 342	5 531	2 511	230 C	2100	7	6000
GSAC Austere	Various Various	Various Various	N/A	N/A	2,549	772	1,031	1,540	1,602	4,8/3 5,200	12,694
Improvements					10,101						10,484
Support and Management Organizations	ent Organizations										
Mission Support	FPI	FY94	N/A	N/A	9,320	6,174	3,726	23	7,380	12,363	38,986
Other Ktr Sup	FFP	FY94	N/A	N/A N/A	49,033 457	219 106	642 118		126	547	49,894 1,354
Vandenberg Sup	Various	Various	N/A	N/A	1,745	685	992				3,196
Project 624A				Page 4	Page 4 of 5 Pages			EX.	ibit R-3 (P	Exhibit R-3 (PF 0305119F)	
					1600						

RDT&E	RDT&E PROGRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	ECT C	OST BR	EAKDO	WN (R-	<u>8</u>	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Developme	stem Develo				PE NUMBER AND TITLE 0305119F Medi	ND TITLE Mediun	D ТITLE Medium Launch Vehicles (Space)	Vehicles	Space		PROJECT 624A
Contractor or Cogovernment Nerforming FActivity Usuricoment Version Safety	Contract Method/Type or Funding Vehicle Various	Award or Obligation <u>Date</u> Various	Performing Activity <u>EAC</u> N/A	Project Office <u>EAC</u> N/A	Total Prior to FY 1996 5,606	Budget <u>FY 1996</u> 2,950	Budget FY 1997 2,848	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program 11,404
Test and Evaluation Organizations Not Applicable	<u>nizations</u>										
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	ion History and F	lanning Infor	mation Contin	ued (\$ in 7	(housands)						
Government Furnished Property: Not Applicable	Property: Not Ap	plicable									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ment lagement ion				303,395 66,161	6,480 10,134	4,620 8,100	5,696 23	7,117	13,073 12,910	340,381 104,834
Total Project					369,556	16,614	12,720	5,719	14,623	25,983	445,215
Project 624A				Page	Page 5 of 5 Pages			Exh	ibit R-3 (Pl	Exhibit R-3 (PE 0305119F)	

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PE NUMBER: 0305128F

UNCLASSIFIED

PE TITLE: Security and Investigative Activities (S&IA)

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhil	bit)		DATE Fel	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development		į	030512 (S&IA)	PE NUMBER AND TITLE 0305128F Secu (S&IA)	пте ecurity a	nd Inves	tigative /	PE NUMBER AND TITLE 0305128F Security and Investigative Activities (S&IA)		РКОЈЕСТ 1931
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1931 TECH SURVEIL COUNTER MEAS EQPT	282	275	530	467	486	494	499	506	506 Continuing	TBD
Quantity of RDT&E Articles	2	-	2	2	2	2	2	2		

(U) A. Mission Description and Budget Item Justification

* Cost of test articles embedded in overall project cost; breakout not available.

activities and force protection support for Air Force (AF) commanders worldwide. This assists AF commanders in protecting their people and resources. AFOSI's mission Countermeasures (TSCM) and technical support to criminal and counterintelligence investigations and operations conducted by AFOSI. AFOSI's TSCM mission provides security assessments to both AF and DoD facilities and programs. While most research to meet operational requirements is Operational System Development, there is also This program is in budget activity 7 - Operational System Development, Research Category 6.6. It funds 70% of the Air Force Office of Special Investigations' (AFOSI) includes investigating criminal matters affecting AF personnel, contract fraud and economic crimes involving AF weapons systems and spare parts, the investigation of manpower and operations and maintenance costs, as well as 100% of its procurement and research and development costs. AFOSI conducts specialized investigative environmental crime, counterdrugs, computer intrusion detection and forensic media analysis of computer crimes. This element supports Technical Surveillance research in the category of Engineering and Manufacturing Development due to a need for modifications to present technology.

fraud, environmental crime and computer crime investigations, technical investigative equipment must be continuously updated to enable AFOSI special agents to have the investigative analysis, national level law enforcement coordination, and dissemination of hacker activity and intrusion incidents for the Air Force. AFOSI's computer crime capabilities to detect and neutralize criminal activities targeted against the AF and DoD. In an era of advancing technology, reduced manning, and increasingly high level most cost effective and best possible means of thwarting criminal acts. The evolution of a new wave of computer crimes has made AFOSI responsible for the collection, equipment must stay on the leading edge of technology to collect criminal information as well as pursue and apprehend criminals through a global medium. There were equipment to support ongoing and future investigative operations to identify hackers and hacker groups, as well as potential hostile government activities targeting Air The equipment required to provide technical support to investigations is unique and complex. This equipment must be continually updated to provide state-of-the-art 2800 computer security violations and/or intrusion incidents reported to AFOSI in 1996. AFOSI must continually update its existing high tech computer surveillance Force communication and control systems.

- (U) FY 1996 (\$ in thousands)
- (U) \$110 TSCM Receiver/Software Suite
- -- (U) RDT&E of the incorporation of monolithic microwave integrated circuit (MMIC) technology into a receiver
 - -- (U) RDT&E of software analysis tools for RF spectrum analysis and integration with receiver systems

Project 1931

Page I of 6 Pages

Exhibit R-2 (PE 0305128F)

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1 1	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	
BUDGET ACTIVITY 7 - Operational S	PE NUMBER AND TITLE 7 - Operational System Development (S&IA)	PROJECT 1931	ест 1
I	(U) RDT&E of the integration of data analysis tools with receiver hardware and suitable microprocessing systems (U) Test articles: 1 (Prototype procured through Initial Operational Test and Evaluation)	ssing systems	
- (U) \$20	TSCM Support Equipment. Demonstration and validation of specialized TSCM support equipment to be included in Support Unit Kits.	e included in Support Unit Kits.	
- (U) \$152	Telephone Analyzer. Demonstration and validation of countermeasure units for field applications		
- (U) \$282	Total		
(U) FY 1997 (\$ in thousands) - (U) \$154 TSCM R	1 thousands) TSCM Receiver/Software Suite. Demonstration and validation of TSCM Receiver Suite		
- (U) \$121	(U) 1 test articles: 1 (Prototype procured through Initial Operational 1 est and Evaluation) Telephone Analyzer. Demonstration and validation of countermeasure units for field applications		
- (U) \$275	(U) Test articles: U Total		
(U) <u>FY 1998 (\$ in thousands)</u> - (U) \$170 Telephon	<u>thousands)</u> Telephone Analyzer. Demonstration and validation of upgraded software		
- (U) \$200	(U) 1est articles: 0 Computer Crimes Investigative (CCI) Equipment. RDT&E of CCI software		
- (U) \$160	Global Positioning System (GPS) Vehicle Tracking. RDT&E of GPS vehicle tracking equipment		
- (U) \$530	(U) test articles: 2 (LOW Kate initiat Production articles) Total		
(U) FY 1999 (\$ in thousands) - (U) \$169 Telephor	1 thousands) Telephone Analyzer. Demonstration and validation of upgraded software		
- (U) \$200	(U) 1est articles: 0 Computer Crimes Investigative (CCI) Equipment. RDT&E of CCI software		<u> </u>
86 \$ (D) -	GPS Vehicle Tracking. RDT&E of GPS vehicle tracking equipment		
- (U) \$467	Total		
Project 1931	Page 2 of 6 Pages	Exhibit R-2 (PE 0305128F)	

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Change Summary (S in Thousands) FY 1995 FY 1997 FY 1998 FY 1999 Total sident's Budget 299 1999 1	RDT&E BUDGET I	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Feb	February 1997	6
Total FY 1996 FY 1997 FY 1998 FY 1999 Cost 4 471 1603 alue -6 -6 -8 -8 -10 -4 -4 1554 BS TY 1997 BS FY 1997 BS FY 1997 BS FY 1997 PB -4 -4 1554 BS FY 1997 PB -4 -4 1554 BS FY 1997 PB -4 -4 1554 BS FY 1997 PB -4 -4 1554 BS FY 1997 PB -4 -4 1554 BS FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 FY 200	вирвет Астіитү 7 - Operational System Developme	ant.		PE N 03((S8	UMBER AND 15128F S	TITLE Security 2	and Inves	stigative	Activities	H #	PROJECT
alue -6 -6 -6 -8 -9 -8 -1 -10 -4 -4	(U) B. Program Change Summary (\$ in Thou	usands)									
alue -6 -6 -8 -4 -1 -10 -4 -4 -4 -5 -8 -6 -7 -10 -4 -4 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7 -7	(U) Previous President's Budget(U) Appropriated Value		<u>FY 199</u> 29		. 199 <u>7</u> 299	FY 1998 534	FY 15	<u>99</u> 71	Total <u>Cost</u> 1603		
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2000 FY 2003 Col	 (U) Adjustments to Appropriated Value a. General Reductions b. SBIR b. Rescissions (Bosnia) b. Below Threshold Repropgrammi ng (U) Adjustments to Budget Years Since FY 1997 (U) Current Budget Submit/FY98 PB 	PB	īīī	994 ^	-6 -8 -10 -10	4- 4- 30	4	4 6	733		
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Col	(U) Change Summary Explanation: Funding:						-	;	-		
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Col	Schedule:										
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY 2003 Col	Technical:										
FY 1996 FY 1996 FY 2000 FY 2001 FY 2002 FY 2003 Co. 1611 1772 2518 2185 3117 3162 3197 3212 T	(U) C. <u>Other Program Funding Summary (\$ ii</u>	n Thousands)									
Page 3 of 6 Pages	(U) 3080 - Other Procurement AF	FY 1996 1611	<u>FY 1997</u> 1772	FY 1998 2518	<u>FY 1999</u> 2185	FY 2000 3117	FY 2001 3162	FY 2002 3197	<u>FY 2003</u> 3212	To Compl TBD	Total Cost TBD
Page 3 of 6 Pages											
	Project 1931			Page 3 of t	S Pages			Exhibi	t R-2 (PE 030	5128F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	NOIT	HEET (R-2 E	xhibi				DATE	40	1	5
вирсет астіvіту 7 - Operational System Development	PE N	PE NUMBER AND TITLE 0305128F Secu (S&IA)	DITILE Security and Investigative Activities	ity and	l Inve	stigat	ive A	ctiviti.	rebruary 1997	5 2 2 4	997 PROJECT 1931
(U) D. Schedule Profile											
(U) TSCM Receiver/Software Suite X	~×	FY 1997 2 3 X X	4		FY 1998 2 3	3	4	•	FY 1999 2 3	33	4
	×	×	×	×	××	×××	×××	×××	×××	×××	×××
Project 1931	Page 4 of 6 Pages	6 Pages				Ш	xhibit F	1-2 (PE	Exhibit R-2 (PE 0305128F)	28F)	

RDT	RDT&E PROGRAM E	RAM EL	EMENT/F	LEMENT/PROJECT	COSTB	REAKD	COST BREAKDOWN (R-3)	3)	DATE Fe	February 1997	197
вирсет Астіvітү 7 - Operational System Development	System De	velopmen	.		0305128F (S&IA)	PE NUMBER AND TITLE 0305128F Secur (S&IA)	ity and In	DITITE Security and Investigative Activities	. Activitie		РРОЈЕСТ 1931
(U) A. Project Cost Breakdown (S in Thousa	Breakdown (in Thousands)	(ৱ								
				FY 1996		FY 1997	FY 1998	FY 1999			
(U) Primary Hardware Development(U) Software Development(U) Total	e Developmen oment	+		255 27 282	2 7 8	237 38 275	330 200 530	267 200 467			
(U) B. Budget Acquisition History and Plann	isition Histor	gand Planning	Information	ing Information (\$ in Thousands)	ds)						
Performing Organizations:	ations:										
Contractor or Government N Performing on Activity V	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Matrix SS/FFP Engineering	t Organizations SS/FFP	Feb 97	N/A	N/A	0	130	154	0	0	284	284
S.T. Research S. Corp.	SS/FFP	Mar 97	N/A	N/A	0	152	121	170	169	Ongoing	TBD
TBD	SS/FFP	Jan 98	N/A	N/A	0	0	0	200	200	Ongoing	TBD
TBD S	SS/FFP	Jan 98	N/A	N/A	0	0	0	160	86	258	258
Support and Management Organizations: None	ient Organizat	ions:									
Test and Evaluation Organizations	rganizations										•
None				à	of k of k Da	Š		U S	C-Vribit D 3 / DE 0306128E)	030542851	
Project 1931				FC	rage 3 of o rages	sa		EX.	וסון א-ט (אבו	USUS (20F)	
					1607						

BUDGET ACTIVITY 7 - Operational System Development (U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousand\$) Government Furnished Property: None Contract Contract Method/Type Award or Delivery Product Development Property None Support and Management Property None Subtotal Product Development Subtotal Product Development Subtotal Product Development Subtotal Product Development Subtotal Product Development Subtotal Product Development Test and Evaluation Total Project O Subtotal Project Total Project	KDI&E PROGRAM ELEMENI/PROJECI COST BREAKDOWN (R-3)	F BREAKD	OWN (K-	(2)	Fe	February 1997	397
Cuortract Contract Contr		PE NUMBER AND TITLE 0305128F Security and Investigative Activities (S&IA)	ity and Inv	estigative	Activitie		Р R ОЈЕСТ 1931
Contract Method/Type Award or or Funding Obligation Delivery Vehicle Date Date Management Property Management Property Inct Development port and Management and Evaluation	d Planning Information Continued (\$ in Thous	(spues					
Contract Method/Type Award or or Funding Obligation Delivery Vehicle Date Date Management Property luation Property tuct Development port and Management and Evaluation	a.						
Management Property Management Property Luation Property Suct Development and Management and Evaluation	n Delivery Pr <u>Date</u> <u>FY</u>	otal Budget 1906 FY 1996	Budget FY 1997	Budget FY 199 <u>8</u>	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Management Property Luation Property Auct Development port and Management and Evaluation							
luation Property luct Development port and Management and Evaluation							
fuct Development port and Management and Evaluation							
		0 282	275	530	467	Ongoing	TBD
		0 282	275	530	467	Ongoing	TBD
Project 1931 Page 6 of 6 Pages	Page 6 of 6	Pages		Exh	Exhibit R-3 (PE 0305128F)	0305128F)	

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PE NUMBER: 0305137F

UNCLASSIFIED

PE TITLE: National Airspace System (NAS)

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 030	PE NUMBER AND TITLE 0305137F Natio	oe number and title 0305137F National Airspace System (NAS)	irspace	System ((NAS)	д	РRОЈЕСТ 4090
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4090 National Airspace System (NAS)	12,140	11,858	12,830	1,919	297	214	217		219 Continuing Continuing	Continuing
Quantity of RDT&E Articles	1 (309)	1 (950)	0	0	0	0	0	0	0	0
										I

modernization. DoD will acquire, to the maximum extent practical, systems on contract or systems to be on contract with the FAA to reduce development costs and prevent continues DoD's access into Special Use Airspace (SUA), provides transparent services to military and civil aircraft, replaces aging DoD ATC systems, and increases flight safety. The Military Airspace Management System (MAMS) will effectively schedule and manage SUA. DoD military ATC and fighting/flying readiness will be maintained. This program is in budget activity 7 - Operational Systems Development, because the DoD Air Traffic Control system, is an operational system. duplication. The DoD NAS program provides systems and facilities compatible/interoperable with the FAA modernization, prevents DoD flight delays and cancellations, (U) A. Mission Description and Budget Item Justification
The DoD National Airspace System program will modernize the DoD Air Traffic Control (ATC) system in parallel with the Federal Aviation Administration (FAA)

	Continue Military Airspace Management System (MAMS) development	Continue site surveys, facility/transition planning	Continue NAS DoD subsystem analysis for each DoD site	Continue Radar acquisition and test	Continue Automation acquisition and test	Continue Voice Switch acquisition and test	Total	
9661	(U) 3,600	1,085	1,265	(U) 2,850	1,615	1,725	(U) 12,140	
(U) FY 1996	(D) -	(D) -	(E) -	(D) -	(D) -	(D) -	(n) -	

	Continue Military Airspace Management System (MAMS) development	Continue site surveys, facility/transition planning	Continue NAS DoD subsystem analysis for each DoD site	Continue Radar acquisition and test	Continue Automation acquisition and test	Complete Voice Switch acquisition and test	Total
766	1,805	1,015	248	(U) 3,950	3,290	1,550	(U) 11,858
(U) FY 1997	<u>(</u>)	(D) -	(<u>)</u>	(<u>0</u>)	(D) -	(D) -	- (U) 1

Project 4090

Exhibit R-2 (PE 0305137F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	N SHEET (R-2 Exhibi	t	DATE Febru	February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305137F Natio	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	space Sys	tem (NAS)	PROJECT 4090
 (U) FY 1998 (U) 2,995 (D) 2,995 (D) 2,995 (D) 2,995 (D) 2,995 (D) Complete facility/transition planning and continue site surveys, (D) 768 (D) 768 (D) 2,940 (Complete Radar acquisition and test (D) 7,590 (D) 7,590 (D) 12,830 (D) 12,830 (D) 12,830 	System (MAN continue site s or each DoD s	MS) development urveys, ite				
(U) FY 1999 - (U) 354 Continue site surveys - (U) 600 Complete NAS DoD subsystem analysis for each DoD site - (U) 965 Complete Automation acquisition and test - (U) 1,919 Total	or each DoD s	site				
(U) B. Program Change Summary (\$ in Thousands)					Total	
(U) Previous President's Budget (FY 1997) (U) Appropriated Value	FY 1996 12,627 13,759	FY 1997 12,614 12,614	FY 1998 13,516	FY 1999 2,290	Cost TBD	
a. Congressional General Reductions b. SBIR c. Omnibus & Other Above Threshold	-707 -287	-264 -279				
Keprogramming d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 97 PB (U) Current Budget Submit/98 PB	-621 -4 12,140	-213 11,858	-686 12,830	-371	TBD	
(U) Change Summary Explanation: Funding: Funds were realigned to source higher priority programs FY98/99.Schedule: None.Technical: None.	d to source hig	gher priority prog	, rams FY98/99.			
Project 4090	Pag	Page 2 of 6 Pages			Exhibit R-2 (PE 0305137F)	5137F)

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RDT&E BUDGET ITE	EM JUS	TIFICA	TION SE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhit	ojt)		DATE Feb	February 1997	78
BUDGET ACTIVITY 7 - Operational System Development			PE NC 030	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	गाट ational A	irspace	System (ا م	R 4	РРОЈЕСТ 4090
(U) C. Other Program Funding Summary (S in 1	in Thousands)									
(U) Other Procurement, BA 16	FY 1996 0	FY 1997 0	FY 1998 16,615	FY 1999 54,591	FY 2000 56,293	FY 2001 58,885	FY 2002 66,574	FY 2003 51,531	To Compl Cont.	Total Cost Cont.
Weapon system code 833020, PE0305137F (U) Other Procurement, BA16 Weapon system code 86190A, PE0305137F,			.029	.162	.398	.605	.644	.533	Cont	Cont
(Initial Spares) (U) Military Construction, BA 24 AF PE 0305137F	0	0	0	0	0	2,089	0	0	0	2,089
Project 4090			Page 3 of 6 Pages	6 Pages			Exhibi	Exhibit R-2 (PE 0305137F)	305137F)	
			1171		!	!				

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RDT&E BUDGET ITEM J	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)	
(U) D. <u>Schedule Profile</u>		
(U) Acquisition Milestone (U) Milestone II (4QFY95) (U) Milestone III (U) Contract Milestones (U) MAMS Contract Awarded (U) Radar RFP Release Contract Award (U) Automation RFP Release Contract Award (U) Voice Switch RFP Release Contract Award (U) Voice Switch RFP Release Contract Award (July 95) NAS IOC Apr 2006 NAS FOC Apr 2006	FY 1996 2 3 4 1	FY 1999 1 2 3 4
Project 4090	Page 4 of 6 Pages Exhit	Exhibit R-2 (PE 0305137F)

RD	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	SRAM EL	EMENT/	PROJECT	COST	BREAKE	OWN (R	-3)	DATE	February 1997	007
BUDGET ACTIVITY 7 - Operational System Development	Il System D	evelopme	nt		PE NUMBER ANI 0305137F	PE NUMBER AND TITLE 0305137F Natio	nal Airsp	ьтпе National Airspace System (NAS)		Coldaly	PROJECT 4090
(U) A. Project Cost Breakdown (S in Thousa	st Breakdown (S in Thousan	(spu								
				FY 1996		FY 1997	FY 1998	FY 1999	<u>&</u> I		
	lopment			3,600	00	1,805	2,995				
(U) Site Surveys (II) Facility/Transition Planning	ion Dlanning			, y	250	001	100	100	0		
	rface Planning			Σ	700 100	90 20	S S				
(U) System Engineering	ering			7.	740	682	768	290	0		
	Contractor Engineering Support Primary Hardware and Test Evaluation	t aluation		300	300 475	002.8	0 630	70	ļ		
	Program Management Support			. 4	465	281	0,530	965	ر د		
				•	09	50	52	49	0		-
(U) Total				12,140	40	11,858	12,830	1,919	6		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition Histor	y and Plannii	ng Informatio	n (\$ in Thousar	(spi						
Performing Organizations:	zations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation Date	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
			747		F I 1990	FY 1990	FY 1997	FY 1998	FY 1999	Complete	Program
Product Development Organizations a. Computer CPAF Based Systems	nt Organizations CPAF	Jun 94	N/A	10,000	3,500	0	0	0	0	0	3,500
b. Hughes	CPFF	Nov 95	11,300	11,300	3,000	3,500	1,805	2,995	0	0	11,300
r r	IDIQ - FFP	Aug 96	N/A	21,339	13,599	2,850	3,950	940	0	0	21,339
d ESC					48,191	5,465	5,403	8,395	1,619	947	70,020
Project 4090				Pc	Page 5 of 6 Pages	ges		Exh	Exhibit R-3 (PE 0305137F)	0305137F)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	RAM EL	EMENT/	PROJECT	COSTB	REAKD	OWN (R-	(3)	DATE	Fohrush, 1007	207
BUDGET ACTIVITY 7 - Operational System Developme	velopme	ŧ		PE NUMBE 030513	PE NUMBER AND TITLE 0305137F Nation	nal Airspa	PE NUMBER AND TITLE 0305137F National Airspace System (NAS)		ebluary i	PROJECT 4090
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Support and Management Organizations SM-ALC	suc			0	0	0	0	0	0	0
Test and Evaluation Organizations 46th Test Wing, Eglin AFB, FL				210	325	700	200	300	0	2,035
Government Furnished Property: Not Applicable	Not Applicab	je je								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				68,290 0 210	11,815 0 325	11,158 0 700	12,330 0 500	1,619 0 300	947 0 0	106,159
Total Project				68,500	12,140	11,858	12,830	1,919	947	108,194
Project 4090			Pa	Page 6 of 6 Pages	ss.		Ë.	Exhibit R-3 (PE 0305137F)	0305137F)	

PE NUMBER: 0305138F

UNCLASSIFIED

PE TITLE: Upper Stage Space Vehicles (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (F	1-2 Exhi	bit)		DATE Fel	February 1997	796
BUDGET ACTIVITY 7 - Operational System Development	ţ		PE NI 030	PE NUMBER AND TITLE 0305138F Uppe	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles (Space)	ge Space	e Vehicle	S (Space		PROJECT 4053
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4053 Upper Stage Space Vehicles	2,931	3,010	3,337	3,369	3,467	3,516	1,712	0	0	36,304
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

spares which are no longer manufactured or available; investigation of flight anomalies; and small studies to assist in defining future upper stages. The preceding tasks RDT&E program continuously evaluates and improves upper stage reliability, cost effectiveness, and responsiveness. It supports redesign of aging equipment and (U) The Upper Stages Program provides consolidated acquisition of the Inertial Upper Stage (IUS) to support the DoD Mission Model. This effort includes flight operations at the Cape Canaveral Air Station, FL; support to flight operations at the Consolidated Space Test Center (CSTC). IUS supports the launch of Defense Support Program (DSP) satellites. IUS is the upper stage on a Titan IV (or it can be modified for Shuttle) and takes the DSP satellite to the required orbit. The require funding in Budget Activity Research Category Operational Systems Development. (U) Acquisition Strategy: Program is in final production under the fourth production contract. Six remaining IUS units are procured (in storage). Remaining procurement effort is for replacement parts and component shelf life extension. Within the RDT&E budget for IUS, Avionics Obsolescence Activity (AOA) will replace obsolete, insupportable guidance, navigation and control system. The third part of the strategy involves the integration and launch services, flight operations, and post-flight analysis. The final portion of the strategy is the independent validation and verification of the IUS.

Study and design corrective actions for anomalies and obsolete items Program Management Support Activities Avionics Obsolescence Mitigation Total (U) \$ 1,000 (U) \$ 563 (U) \$2,931 \$ 1,368 3

Study and design corrective actions for anomalies and obsolete items Program Management Support Activities Total Avionics Obsolescence Mitigation \$ 1,167

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Exhibit R-2 (PE 0305138F)

RDT&E BUDGET ITEM JUS	TIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Exhib	it)	DATE	February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305138F Uppe	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles	le Space Ve	(Sp	PROJECT 4053
(U) FY 1998						
 (U) \$ 1,392 Study and design corrective actions for anomalies and obsolete items (U) \$ 1,000 Avionics Obsolescence Mitigation (U) \$ 945 Program Management Support Activities (U) \$ 3,337 Total 	malies and obsol	ete items				
(U) FY 1999 (U) \$1,542 Study and design corrective actions for anomalies and obsolete items (U) \$ 900 Avionics Obsolescence Mitigation (U) \$ 927 Program Management Support Activities (U) \$3,369 Total	malies and obsole	ste items				
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 3,359 3,554	FY 1997 3,154 3,154	FY 1998 3,365	FY 1999 3,401	Total <u>Cost</u>	
a. Cong Gen Reductions b. SBIR	-70 -75	-70 -74				
c. Criminus of Other Above Infeshold Reprogram d. Below Threshold Reprogramming (BTR) (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	-477 -1 2,931	3,010	-28 3,337	-32 3,369	36,304	
(U) Change Summary Explanation:						
Funding: Not Applicable Schedule: Not Applicable Technical: Not Applicable						
(U) C. Other Program Funding Summary (\$ in Thousands)						
Project 4053	Pay	Page 2 of 5 Pages			Exhibit R-2 (PE 0305138F)	(38F)
						,

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATI	ON SHE	ET (R-	2 Exhib	Œ		DATE Feb	February 1997	797
BUDGET ACTIVITY 7 - Operational System Development			PE NUMBER AN 0305138F	PE NUMBER AND TITLE 0305138F Uppe	ւե per Stag	e Space	Vehicles	оппе Upper Stage Space Vehicles (Space)		РРОЈЕСТ 4053
(U) Missile Procurement	FY 1996 55,714	FY 1997 47,293	FY 1998 49,990	FY 1999 57,736	FY 2000 59,720	FY 2001 60,388	FY 2002 32,674	FY 2003 3,780	To Complete 0	o Total te <u>Cost</u> 0 367,295
Related RDT&E: (U) PE 0305144F, Titan Vehicles (U) PE 0102431F, Defense Support Program (DSP) (U) Inertial Upper Stage (IUS) program supports the NASA Space Transportation System as the upper stage is used with the Space Shuttle										
(U) D. Schedule Profile	X 199		돲,		•	FY 1998		<u>.</u>	V 199	•
(U) DoD Launch (U) Avionics Replacement* (U) Integration, Launch Support, and Life Extension Modification*	× × ×	4 ××	- ××	m ××	4 XX - X	~ ×	4 X	- ×	m × ×	4 X
* Activities are continuous throughout the year.										
Project 4053		F	Page 3 of 5 Pages	ages			Exhibit	Exhibit R-2 (PE 0305138F)	(05138F)	

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RD.	RDT&E PROGRAM EL	SRAM EI		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	REAKD	OWN (R.	(F)	DATE	Fohriism, 4007	007
BUDGET ACTIVITY 7 - Operational System Developme	Il System D	evelopme			PE NUMBER AN 0305138F	PE NUMBER AND TITLE 0305138F Upper	Stage Sp	D ΤΙΤΙΕ Upper Stage Space Vehicles	S S	ce)	PROJECT 4053
(U) A. Project Cost Breakdown (S in Thousan	st Breakdown (S in Thousan	(sp	FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Avionics Obsolescence Mitigation(U) Program Management Support(U) Systems Engineering	lescence Mitigat gement Support sering	ion		1,000 563 1,368	0 m &	1,000 913 1,097	1,000 945 1,392	900 927 1,542	9 2 2 9		
(U) Total				2,931		3,010	3,337	3,369	6		
(U) B. Budget Acquisition History and Plannin	uisition Histor	y and Plannir	ng Information	g Information (\$ in Thousands)	<u>(S)</u>						
Performing Organizations:	izations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing FPI/AF FPI/AF CPAFI OF	11 Organizations FPI/AF FPI/AF	Jul 85 Mar 91 Sen 90	906,671* 151,189*	942,335* 158,055*	5,350	798	630	0 1,292	01,310	3,120	6,778
United Tech Corp/Pratt & Whitney	CPFF	Mar 95	N/A	N/A	4,098 855	1,000 0	000 0	1,100 0	1,132 0	2,880 0	11,160
*Figures include funds used for IUS under previous Program Elements	ds used for IUS	under previou	is Program Eler	nents							
Support and Management Organizations Space and Missile N/A N/ Systems Center, LAAFB	ment Organizati N/A	<u>ions</u> N/A	N/A	N/A	3,238	563	843	945	927	2,695	9,211
Test and Evaluation Organizations Not Applicable	Organizations N	Vot Applicable									
Project 4053				Pag	Page 4 of 5 Pages	es		Exh	Exhibit R-3 (PE 0305138F)	0305138F)	
					1619						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST B	REAKDO	JWN (R-	3)	DATE	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305138F Uppe	AND TITLE	Stage Sp	PE NUMBER AND TITLE 0305138F Upper Stage Space Vehicles	cles (Space)		РРОЈЕСТ 4053
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	(\$ in Thousands)	~					
Government Furnished Property: Not Applicable							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	Total Prior to FY 1996 11,724 3,238	Budget <u>FY 1996</u> 2,368 563	Budget FY 1997 2,167 843	Budget FY 1998 2,392 945	Budget FY 1999 2,442 927	Budget to Complete 6,000 2,695	Total Program 27,093 9,211
Total Project	14,962	2,931	3,010	3,337	3,369	8,695	36,304
Project 4053	Page 5 of 5 Pages	Së		EX	Exhibit R-3 (PE 0305138F)	. 0305138F)	
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PE NUMBER: 0305144F

UNCLASSIFIED

PE TITLE: Titan Space Launch Vehicles (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305144F Titan	гіт <u>г</u> е itan Spa e	ce Launc	h Vehicl	e NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)		РRОЈЕСТ 4135
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Titan Space Launch Vehicles	128,942	97,487	82,384	137,602	53,241	49,351	44,425	40,205	50,000	3,320,678
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

- (U) National security requirements dictate a continuing, highly reliable means of placing critical DoD satellites into required orbits. The Titan IV program provides launch Air Force, NRO, and NASA payloads. This program provides several different configurations for the Titan IV [No Upper Stage (NUS), Inertial Upper Stage the capability to launch the largest of these satellites into near-earth or geosynchronous orbits from either the east or west coast launch facilities. Titan IV is used to (IUS), and Centaurl. In addition, the Titan IV program has developed a new vehicle configuration, the Titan IVB, with solid rocket motor upgrade (SRMU), new avionics and ground support equipment to meet reliability and increased performance requirements. This program provides continuing integration support to the payload community as well as continuing engineering support to maintain system characterization and reliability.
- (U) Beginning in FY94, this program element also included funding for engineering costs, payload integration, and Government costs for the Titan II space launch vehicle. This program is included in Budget Activity 7, Operational Systems Development, since both Titan II and Titan IV are operational launch vehicles.
- 41 Vehicle Reallocation/completion/Solid Rocket Motor Upgrade (SRMU) static firing FY 1996 \$48,599 _{වි}වවවවව
 - Continue development of Titan IVB \$35,800
- Continue integration for the Defense Support Program (DSP) and Milstar \$7,481
 - Continue Titan Booster support \$35,600
 - Award Fee \$1,462

(U) \$128,942 Total

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Project 4135

Exhibit R-2 (PE 0305144F)

		RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	997
7	BUDGET ACTIVITY 7 - Operatio	וספבד אכדועודץ - - Operational System Development	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)		РRОЈЕСТ 4135
1 [1]	(U) \$37,540 (U) \$37,540 (U) \$35,400 (U) \$4,500 (U) \$20,047	97 10 41 Vehicle Reallocation/completion/Solid Rocket Motor Upgrade (SRMU) static firing Continue development of Titan IVB 10 Continue integration for the Defense Support Program (DSP) and Milstar 17 Continue Titan Booster support	ograde (SRMU) static firing P) and Milstar		
1 1	(U) \$97,487	7 Total			
1 1 1 1	(U) \$39,580 (U) \$39,580 (U) \$11,200 (U) \$26,000 (U) \$5,604	98 41 Vehicle Reallocation/completion/Solid Rocket Motor Upgrade (SRMU) static firing Continue development of Titan IVB Continue integration for the Defense Support Program (DSP) and Milstar Continue Titan Booster support	ograde (SRMU) static firing P) and Milstar		
1 1	(U) \$82,384	l Total			
1111	(U) \$87,436 (U) \$87,436 (U) \$8,876 (U) \$38,000 (U) \$33,290	99 6 41 Vehicle Reallocation/completion/Solid Rocket Motor Upgrade (SRMU) static firing 6 Continue development of Titan IVB 0 Continue integration for the Defense Support Program (DSP) and Milstar 0 Continue Titan Booster support	ograde (SRMU) static firing P) and Milstar		
1, 1	(U) \$137,602)2 Total			
Pro	Project 4135	P	Page 2 of 6 Pages Exhit	Exhibit R-2 (PE 0305144F)	

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RDT&E BUDGET ITEM JUSTIFICATIO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)		PROJECT

(U) Acquisition Strategy:

(U) The program has implemented a revised acquisition strategy for the entire 41-vehicle program. During FY1996, Titan IV has transitioned from the old 41-vehicle development/production and payload integration contracts to new contracts designed to improve cost accountability, correct contract discrepancies, and establish an deactivation, launch operations, anomaly resolution, development and hardware requalification, payload integration, and program studies to provide the greatest overall programmatic view for the effort to complete the program. The new contracts combine Titan II and Titan IV production, storage, pad maintenance and potential for cost savings by maximizing use of resources and eliminating duplicative processes.

(U) B. Program Change Summary (\$ in Thousands)

999

FY 1999	90,648								+46,954	137,602
FY 1998	179,741								-97,357	82,384
FY 1997	105,472			-5,403	-2,582					97,487
FY 1996	126,330					8,750	-5,308	-830		128,942
) Previous President's Budget	Appropriated Value	Adjustments to Appropriated Value	a. Cong Gen Reductions	b. SBIR	c. Omnibus or Other Above Threshold Reprogram	d. Below Threshold Reprogramming (BTR)	e. Rescissions	Adjustments to Budget Years Since 97PB	Current Budget Submit/BES/98PB

(U) Change Summary Explanation:

99

Funding: FY96 Omnibus Reprogram includes additional funds for Solid Rocket Motor Upgrade requalification requirements, and deletes some funding to pay for higher Air Force priorities. Other FY96 reductions are due to higher Air Force priorities. FY98 reduction realigns SRMU requalification funds to missile procurement appropriation. FY99 increase is for deferred engineering design effort of Titan IVB vehicles. Schedule: FY96 and FY97 reductions result from deletion of the CPF Acquisition Program Baseline (APB) Initial Operational Capability (IOC) milestone in June

Technical: FY96 and FY97 reductions result from termination of the off-pad Centaur upper stage processing, cryogenic tanking, and storage capability.

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Project 4135

Exhibit R-2 (PE 0305144F)

RDT&E BUDGET IT		USTIFIC	ATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exh	libit)		DATE	Fahruan, 1007	2007
BUDGET ACTIVITY 7 - Operational System Developmen	ent		≝ 0	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)	DTITLE Titan Spa	ace Laun	ch Vehic	les (Spac		PROJECT 4135
(U) C. Other Program Funding Summary (\$ in	in Thousands)	(spi					,			
 (U) Missile Procurement, Budget Activity 5, Space Boosters (U) Not Applicable 		FY 1997 432,194	FY 1998 555,304	FY 1999 585,288	FY 2000 393,892	FY 2001 333,006	<u>FY 2002</u> 328,303	FY 2003 254,909	To <u>Compl</u> 800,300	Total Cost 4,090,434
(U) D. Schedule Profile										
(U)Draft Single Acquisition Management Plan (SAMP) to OSD staff (U) 41-Vehicle Production and Launch Operations Ltr. Contract Award U) 41-Vehicle Production and Launch Operations Contract Definitization (U) Titan IV-B (SRMU) Initial Operational Capability (IOC) (U) Titan Development (Hardware Requal) Contract Definitization	I 2	EY 1996 2 3 4 X X	~~	FY 1997 2 3 X X	4 ×	FY 1998	3 4	~~	FY 1999 2 3	4
Project 4135			Page 4	Page 4 of 6 Pages			Exhib	Exhibit R-2 (PE 0305144F)	30 <u>5</u> 144F)	
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B.	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	GRAM EI	LEMENT/	PROJECT	COST	3REAKD	OWN (R-	3)	DATE	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	ınt		PE NUMBI 03051	PE NUMBER AND TITLE 0305144F Titan Space Launch Vehicles (Space)	Space Lau	unch Vehic	cles (Spa		PROJECT 4135
(U) A. Project Cost Breakdown (\$ in Thousan	ost Breakdown	(\$ in Thousan	ids)								
- u.				FY 1996		FY 1997	FY 1998	FY 1999	6 1		
(U) Titan IV (U) Contra (U) Contra (U) Other	nn IV (U) Contract Costs R&D (85-C-0019/96-C-0035) (U) Contract Costs UPI (92-C-0028) (U) Other Government Costs	(85-C-0019/9, 92-C-0028) sts	6-C-0035)	84,399 7,481 37,062	99 81 62	72,940 4,500 20,047	50,780 26,000 5,604	96,312 38,000 3,290	12 30 30		
(U) Total				128,942	42	97,487	82,384	137,602	72		
(U) B. Budget Acquisition History and Plannin	quisition Histor	ry and Planni	ng Information	ı <u>g İnformation (\$ in Thousands)</u>	(Sp i						
Performing Organizations:	izations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity EAC**	Project Office EAC**	Total Prior to	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations LMC 85-C-0019 SS/FPIF	nt Organizations SS/FPIF	<u>s</u> 10FY85	11,110,900	11 203 100	7 191 584	14 733					
LMC 85-C-0085 LMC 92-C-0028	SS/FPIF SS/CPAF	1QFY85 3QFY92	638,600 619,975		82,067 83,370	7,481	4,500	26,000	38,000	Cont	Cont
LMC - 96-C-0035 Facilities	SS/CPAF n/a	3QFY96 n/a	57,840	57,840	0 93,300	69,666 0	72,940 0	50,780 0	96,312 0	Cont 0	Cont 93,300
Project 4135				Pa	Page 5 of 6 Pages	səz		EXP	Exhibit R-3 (PE 0305144F))305144F)	
					1,00						

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RDT	RDT&E PROGRAM EL	SRAM EL		EMENT/PROJECT		REAKD(COST BREAKDOWN (R-3)	(E)	DATE	February 1997	790
BUDGET ACTIVITY 7 - Operational System Development	System D	evelopme	 t		PE NUMBER AN 0305144F	PE NUMBER AND TITLE 0305144F Titan 9	D TITLE Titan Space Launch Vehicles (Space)	nch Vehic	cles (Spac		PROJECT
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC**	Project Office EAC**	Total Prior to FY 1996*	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	udget to	Total Program
Support and Management Organizations Tecolote, SRS, TRW, Antioch, Aerospace Pending Reprog	ment Organiza	<u>tions</u>	Not App Not App	Not App Not App	118,204	32,342	15,661	5,604	3,290	Cont	Cont
Test and Evaluation Organizations Not Applicable Subtotal Product Development Subtotal Support and Management	Organizations elopment Management				2,450,321	91,880 37,062	77,440	76,780 5,604	134,312	Cont	Cont
Subtotal Test and Evaluation Total Project	aluation				2,637,041	128,942	97,487	82,384	137,602	Cont	Cont
* These figures are only Air Force Titan IV RDT&E funds ** NOTE: EAC Includes all sources of funds (NASA, NRO, DSP and Milstar)	nly Air Force udes all source	Fitan IV RDT s of funds (NA	&E funds .SA, NRO, DS	P and Milstar)							
Project 4135	-			P_{ℓ}	Page 6 of 6 Pages	sa		Exhi	Exhibit R-3 (PE 0305144F)	0305144F)	

PE NUMBER: 0305145F

UNCLASSIFIED

PE TITLE: Arms Control Implementation

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	t-2 Exhi	bit)		DATE Fe l	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	يد		PE N	PENUMBER AND TITLE 0305145F Arms	TITLE	itrol Imp	PE NUMBER AND TITLE 0305145F Arms Control Implementation			
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	948	27,841	0	0	0	0	0	0	0	948
4190 Treaty Prep/Verification Support	473	0	0	0	0	0	0	0	0	473
4283 Open Skies Treaty Systems Develop	475	0	0	0	0	0	0	0	0	475
4520 Comp Test Ban Treaty Data Ctr Dev	0	27,841	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

(U)This element directly supports implementation and planning for current and pending arms control agreements.

- (U) Treaty preparation/verification support activities encompass a wide range of projects necessary to ensure United States compliance with ongoing and future arms control treaties and agreements.
- (U) Open Skies Treaty Systems Development support includes:
- (U) Aircraft systems integration, engineering, test, and evaluation
 - · (U) Synthetic Aperture Radar (SAR) prototype development
- (U) Data Annotation and Recording Mapping System (DARMS) prototype development
 - (U) Ground processing software development.
- (U) Comprehensive Test Ban Treaty (CTBT) Prototype International Data Center Development and related CTBT technology development programs transfer from the Advanced Research Projects Agency (ARPA) to AF Arms Control in FY97. Work on seismic event identification techniques performed by Phillips Laboratory (Project 1010) and research on seismology in support of nuclear monitoring performed under the auspices of the AF Office of Scientific Research (Project 2309) were also transformed to AF Arms Control (PE 35145F) in FY97. These actions were taken to consolidate DoD funding and management of key treaty implementation activities and monitoring technologies into one program element.

(U) B. Program Change Summary (\$ in Thousands)

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Exhibit R-2 (PE 0305145F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R-2 Exh	ibit)		DATE Fe	February 1997	766
вирсет Астилт 7 - Operational System Development		9E 03	PE NUMBER AND TITLE 0305145F Arms	Arms Co	ntrol Im	PE NUMBER AND TITLE 0305145F Arms Control Implementation			
(U) Previous President's Budget	FY 1996 998	H .	FY 1997 26,786	FY 1998 10,997	FY 11	FY 1999 11,115	Total Cost		
 (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR 	1 1	-20 -16	+1,718						
c. Omnibus and Above Threshold Reprogramming d. Below Threshold Reprogramming e. Rescission (U) Air Force Funding Crosswalked to DoD DSWA (U) Current Budget Submit/President's Budget	' 6	-14	28,477	-10,997	Į.	-11,115 0			
 (U) Change Summary Explanation: (U) Funding: Transfer of funds during FY98-03 POM. Schedule: Not Applicable Technical: Not Applicable 									
(U) C. Other Program Funding Summary (\$ in Thousands)									
(U) Aircraft Procurement: OC-135B FY 1996 FY	FY 1997 0	FY 1998 0	FY 1999 0	FY 2000 0	FY 2001 0	FY 2002 0	FY 2003 0	Cost To Compl 0	Total Cost 977
(U) Other Procurement: Items less than \$2.0	0	0	0	42	43	0	0	Cont.	Cont.
(U) D. Schedule Profile									
(U) See individual project schedules									
		Page 2 of	Page 2 of 10 Pages			Exhit	Exhibit R-2 (PE 0305145F)	305145F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	R-2 Exhi	bit)		DATE Fe	February 1997	760
BUDGET ACTIVITY 7 - Operational System Development	ıt.		PE NI	PE NUMBER AND TITLE 0305145F Arms		Control Implementation	ementati		4	РВОЈЕСТ 4190
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4190 Treaty Prep/Verification Support	473	0	0	0	0	0	0	0	0	473
Quantity of RDT&E Articles										
(U) A. Mission Description and Budget Item Ju	Justification									
 (U) Treaty preparation/verification support activities encompass a wide range of projects necessary to ensure United States compliance with impending arms control treaties and agreements. They include modifications and enhancements to the Arms Control Treaty Information Operating Network (ACTION) system, research and analysis activities associated with preparing the USAF to support immediate compliance with existing agreements and analysis of the implications of future agreements and negotiations. (U) Research and analysis associated with this project will be complete in FY96. No further funding has been programmed beyond FY96. 	activities encompass a wide range of projects necessary to ensure United States compliance with impending arms ude modifications and enhancements to the Arms Control Treaty Information Operating Network (ACTION) syste with preparing the USAF to support immediate compliance with existing agreements and analysis of the implicatio this project will be complete in FY96. No further funding has been programmed beyond FY96.	mpass a wic ons and enha the USAF to	le range of puncements to support imner in FY96.	rojects neces the Arms C nediate com	ssary to ensus ontrol Treaty pliance with mding has be	e United Stanformation existing agreems	n Operating sements and med beyond	nce with imp Network (AC analysis of t FY96.	canding arm CTION) syst the implicati	s em, ons of
(U) <u>FY 1996</u> - (U) \$473 Accomplishes research to treaty (U) \$473 Total	to model threats and analyze feasibility of AF's National Missile Defense strategy. Analyzes compliance with ABM	its and analy	ze feasibility	/ of AF's Na	itional Missil	e Defense str	rategy. Ana	lyzes compli	iance with A	ВМ
(U) B. Program Change Summary (S in Thousands)	ands)							- - !		
(U) Previous President's Budget		FY 1996 498		FY 1997 0	FY 1998 0	FY 1999 0	8) O	Cost 498		<u> </u>
(U) Adjustments to Appropriated Value a. Congressional General Reduction b. SBIR c. Omnibus and Above Threshold Reprogramming d. Below Threshold Reprogramming	ıming	-10	0 &							
Project 4190			Page 3 of 10 Pages	0 Pages			Exhibi	Exhibit R-2 (PE 0305145F)	305145F)	
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RDT&E BUDGET ITEM J	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE Febr	February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305145F Arms	D TITLE Arms Confi	9E NUMBER AND TITLE 0305145F Arms Control Implementation	tation	PROJECT 4190
e Becriseion	<u>FY 1996</u>	FY 1997	FY 1998	FY 1999	Total Cost	
(U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	473	0	0	0	473	
(U) Change Summary Explanation:						
(U) Funding: SBIR, Rescission, Omnibus and Abor Schedule: Not Applicable Technical: Not Applicable	and Above Threshold, and General Congressional Reduction in FY96.	neral Congression	al Reduction in I	·Y96.		
(U) C. Other Program Funding Summary (\$ in Thousa	Thousands): Not Applicable					
(U) D. Schedule Profile:	1006	EW 1007		1000	-	900
(U) Analysis and Support X X	2 3 4 1 X X X	2 3	4	2 3	4 -	$\frac{171999}{2}$ 3 4
Project 4190	Pa	Page 4 of 10 Pages	i	Ú	Exhibit R-2 (PE 0305145F)	05145F)
		0031				

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TEM JUS	STIFICA.	TION SI	HEET (F	R-2 Exhi	bit)		DATE	Fobrigar, 1007	700
BUDGET ACTIVITY 7 - Operational System Developmen	#		PE N	PE NUMBER AND TITLE 0305145F Arms	TITLE VEINS CON	ь тіт. E Arms Control Implementation	ementati		Didaily in	93. РКОЈЕСТ 4283
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4283 Open Skies Treaty Systems Develop	475	0	0	0	0	0	0	0	0	475
Quantity of RDT&E Articles										
(U) A. Mission Description and Budget Item Jus	stification									
 (U) Open Skies support includes development of Synthetic Aperture Radar (SAR), SAR media processing equipment, the Data Annotation and Recording Mapping System (DARMS), as well as systems integration, engineering, test, and evaluation. (U) Aircraft systems integration, engineering, test, and evaluation (U) Synthetic Aperture Radar (SAR) prototyne development 	nt of Syntheti ms integratio ring, test, and otvne develor	ic Aperture R n, engineerin evaluation	adar (SAR)	, SAR media evaluation.	r processing This include	equipment, t s:	he Data Ann	otation and	Recording	
 (U) Data Annotation and Recording Mapping System (DARMS) prototype development (U) Ground processing software development (U) System integration and test & evaluation of the FOC trainer OC-135B aircraft will be complete in FY96. No further funding has been programmed beyond FY96. 	ping System (nent n of the FOC	(DARMS) pritrainer OC-1	ototype dev 35B aircraft	elopment : will be com	plete in FY9	6. No furthe	r funding ha	s been progr	ammed bey	puo
 (U) FY 1996 (U) \$475 Completes system integration and test & evaluation of the FOC trainer OC-135B aircraft. (U) \$475 Total 	ation and test	& evaluatio	n of the FO	C trainer OC	7-135B aircra	ıff.				
(U) B. Program Change Summary (\$\frac{8}{10}\$ in Thousands)	(spu									
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustment of Appropriated Value 		FY 1996 500		FY 1997 0	FY 1998 0	FY 1999 0	SI 0	Total Cost 500		
Project 4283		01-	Page 5 of 10 Pages	O Pages			П vhihi	E-hihit P.0 (DE 0306146E)	30544EE	
			1621	22			LAIIDI	N-2 (FE 0,	0001401	

RDT&E BUDGET IT	TEM J	UST	FICA	TION S	TEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE Fet	February 1997	Ľ
BUDGET ACTIVITY 7 - Operational System Development				PE 03	PE NUMBER AND TITLE 0305145F Arms	TITLE	D TITLE Arms Control Implementation	ementati		PR(PROJECT 4283
 b. SBIR c. Omnibus and Above Threshold Programming d. Below Threshold Reprogramming 	ing		FY 1996 -8		FY 1997	FY 1998	FY 1999	66	Total Cost		
(U) Current Budget Submit/President's Budget			475	\$	0	0		0	475		
(U) Change Summary Explanation: (U) Funding: Omnibus and Above Threshold and General Congressional Reduction in FY96. Schedule: Not Applicable Technical: Not Applicable	old and C	ieneral	Congressi	onal Redu	ction in FY96.						
(U) C. Other Program Funding Summary (\$ in	Thousands)	(spu									
(U) Aircraft Procurement: OC-135B	FY 1996 429	•	FY 1997 0	FY 1998 0	8 FY 1999 0 0	FY 2000 0	FY 2001 0	FY 2002 0	$\frac{\text{FY } 2003}{0}$	To <u>Compl</u> 0	Total Cost 977
(U) Other Procurement: Items less than \$2.0		38	0)	0 0	42	43	0	0	Cont	TBD
(U) D. Schedule Profile Includes all Program activities not just RDT&E	•	FY	FY 1996	•	FY 1997	~1	FY	199		FY 1999	
(U) Milestone II/III (Complete Mar 93) (U) Critical Design Complete (3010)		7	m	4	23	4	7	ĸ	4 L	2 3	4
(U) Modifications (U) T&E (3600)	××	×	×								
(U) Delivery	!	:	: ×								
(U) Modifications (3010) (U) T&E (3600) (U) Delivery	×	×	××	× × ×							
(U) FOC Netroin of 100 Aircraft	×	×	×	×							* <u>. </u>
Project 4283				Page 6 of	Page 6 of 10 Pages			Exhibi	Exhibit R-2 (PE 0305145F)	305145F)	

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RDT&E BUDGET ITEM	JUC F	STIFIC	Ϋ́ΤΫ́	IS NC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 l	Exhib	Į.		DATE		February 1997	1997	
BUDGET ACTIVITY 7 - Operational System Development				PE N	UMBER AN	Arms	Cont	ro Im	PE NUMBER AND TITLE 0305145F Arms Control Implementation	tation			PROJECT 4283	L L
Includes all Program activities not just RDT&E		9661 AJ		-	FYT	766			FY 1998			FY 19	6661	İ
(U) T&E (3600)	_	2 3	4	- ×	X 2 X	[m × ;	4	-	2 3	4	_	1	(m	4
(U) Ground Proc'ng Facility Enhancements (3600) X (U) Engine Stage III Noise Abatement		×	×	×		×								
Project 4283			Pa_{s}	Page 7 of 10 Pages	0 Pages				Ē	Exhibit R-2 (PE 0305145F)	(PE 03(05145F)		
				; ;										

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RDT&E BUDGET IT	EM JUS	TIFICA	EM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (F	2-2 Exhi	bit)		DATE	Fohrijan, 1007	307
BUDGET ACTIVITY 7 - Operational System Development		:	PE NI 030	PE NUMBER AND TITLE 0305145F Arms	TITLE Vrms Con	PE NUMBER AND TITLE 0305145F Arms Control Implementation	ementati	ļ	and and a	93/ РКОЈЕСТ 4520
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4520 Comp Test Ban Treaty Data Ctr Dev	0	27,841	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles										
(U) A. Mission Description and Budget Item Justification	stification									
(U) The CTBT effort will encompass a multitude of activities in FY97 that enable the DoD to prepare for US treaty i activities were managed by AFTAC, ARPA, Phillips Labs, and the Office of Scientific Research. Activities include:	activities in Labs, and tl	FY97 that en re Office of	nable the Do Scientific Re	D to prepare	for US treat tivities inclu	activities in FY97 that enable the DoD to prepare for US treaty implementation and compliance. Prior to FY97, these s Labs, and the Office of Scientific Research. Activities include:	tation and co	mpliance. Pr	rior to FY97	, these
 (U) Development of National and International Data Centers (\$16.3 million) (U) secure and robust data communication and acquisition (U) automated systems development and integration (U) automated signal processing and integration into operational system (U) expansion from seismic-only processing to include hydroacoustic, infrasound, and radionuclide data (U) development of man-machine interface (U) automation and integration of knowledge bases, multi-source cueing, and regional discrimination research (U) automation and integration of automated and interactive processing algorithms (U) demonstrate atmospheric transport capability for radionuclide location (U) data authentication (U) data authentication (U) data authentication (U) data authentication of the integrated system (U) initiation of transition of the IDC to CTBT Organization/Preparatory Commission (U) definition of processes and techniques for treaty required data exchanges and notifications (U) definition of processes and techniques for treaty required data exchanges and notifications (U) interface to other National Systems (U) interface to the US research community 	Data Centers (\$16.3 million) n and acquisition n and acquisition integration gration into operational syster ng to include hydroacoustic, ege bases, multi-source cueir dineractive processing algor ability for radionuclide loca and correlation system em TBT Organization/Preparato ort (\$4.593 million) i for treaty required data exch ools	tion perational sylutriconscous hydroacous thydroacous processing a dionuclide on system ation/Prepa ation/Prepa quired data o	ion) stic, infrasou ueing, and r ligorithms location ratory Comn	nd, and radi egional disci nission ıd notificatic	onuclide dats rimination re ms	a ssearch				
Project 4520			Page 8 of 10 Pages	0 Pages			Exhibit	Exhibit R-2 (PE 0305145F)	305145F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-2 Exhibit)	DATE February 1997	266
	PE NUMBER AND TITLE 0305145F Arms Control Implementation		PROJECT 4520
 (U) support to Preparatory Commission activities (U) provide capability to analyze, characterize and resolve events located in the US in order to minimize frivolous on-site inspection requests by foreign governments and the CTBT international organization 	in order to minimize frivolous on-si	ite inspection requests by foreig	=
 (U) Research and development of nuclear monitoring techniques (\$5.893 million) (U) Seismic, hydroacoustic, infrasound and radionuclide data exploitation (U) improved understanding of the phenomenology of signal and noise sources (U) calibrated location and discrimination of small events globally, with emphasis on the former Soviet Union (U) modeling of sources and propagation 	rces phasis on the former Soviet Union		
 (U) new techniques for multi-source data fusion (U) Seismic-specific data exploitation (U) improved detection and identification of surface waves (I) improved death estimation 			
 (U) Hydroacoustic and infrasound-specific data exploitation (U) Hydroacoustic and infrasound-specific data exploitation (U) use of spatially- and temporally-varying velocity models for real-time event location (U) new discriminates for identification of events (II) Radiomiclide specific data exploitation 	vent location		
(U) new techniques for detection and identification of fission products for gamma spectroscopy (U) improved event location using data from multiple stations and advance atmosphere transport models - (U) Satellite-specific data exploitation (U) characterization of low-level explosion and natural phenomena	amma spectroscopy atmosphere transport models		
 (U) Prior to FY97, ARPA, Phillips Labs, and OSR managed these activities under the following PEs: (U) ARPA PE 0602301E, Project ST-23 (U) OSR PE 0601102F, Project 2309 (U) Phillips Labs PE 0602601F, Project 1010 	owing PEs:		
(U) Funding and management of these efforts transferred to DSWA effective FY98.			
(U) <u>FY 1996</u> - (U) \$0 N/A - (U) \$0 Total			
Project 4520	Iges	Exhibit R-2 (PE 0305145F)	
		· · · · · · · · · · · · · · · · · · ·	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET (R-2 Exhik	oit)	DATE February 1997	y 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305145F Arms	o ராட் Arms Conf	ם זוזונ Arms Control Implementation	ĺ	PROJECT 4520
(U) <u>fY 1997</u> - (U) \$26,786 Multiple - (U) \$26,786 Total						
(U) B. Program Change Summary (\$ in Thousands)					E E	
(U) Previous President's Budget (U) Appropriated Value	FY 1996 0	FY 1997 26,786 0	FY 1998 10,997 0	FY 1999 11,115	l otal <u>Cost</u>	
(U) Current Budget Submit/President's Budget	0	0 26,786	-10,997 0	-11,115	Continuing Continuing	
 (U) Change Summary Explanation: (U) Funding: FY98-99 Transfers funding from AF to DSWA. Schedule: Not Applicable Technical: Not Applicable 	/ Α .					
(U) C. Other Program Funding Summary (\$ in Thousands):						
(U) D. Schedule Profile FY 1996 1 2 3 4 (U) Prototype IDC Development	-×	FY 1997 2 3 X X	4 X	FY 1998 2 3	FY 1999 4 1 2 3	4
(U) NDC Development(U) Monitoring TechnologiesDevelopment(U) Treaty Implementation & Technical	× ×		:× ×			
Support	×	×	×			
Project 4520	Page 1	Page 10 of 10 Pages			Exhibit R-2 (PE 0305145F)	5F)
		1636				

PE NUMBER: 0305154F

PE TITLE: Defense Airborne Reconnaissance Program (DARP) RC-135

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	JEET (F	8-2 Exhi	bit)		DATE Fet	February 1997	197
BUDGET ACTIVITY 7 - Operational System Developmen	42	:	PE N 030 Pro	PE NUMBER AND TITLE 0305154F Defen Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	Airborne -135	Reconna	issance		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	29,558	4,750	0	0	0	0	0	0	0	34,308
4590 DARO Engines	29,558	0	0	0	0	0	0	0	0	29,558
4607 COBRA BALL (FLD)	0	4,750	0	0	0	0	0	0	0	4,750
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

(U) This project supports design studies, engineering analyses, non-recurring engineering, and other efforts associated with modifications to the RC-135 or its mission systems. The results of these efforts provide the requisite engineering necessary to implement modifications or provide a preliminary assessment of the technical feasibility, operability or general military utility of developing a proposed application.

(U) Acquisition Strategy:

(U) RC-135 sustainment and modification are managed by the Air Force through the BIG SAFARI program. Programs managed under BIG SAFARI are directed only by the Air Force Acquisition Executive (SAF/AQ). These projects are managed by a single Air Force Material Command (AFMC) organization, ASC/RA. That office provides technical oversight and management of all aircraft, ground and support system modification management, integration and flight test engineering responsibility, product assurance and acceptance testing, logistics and training activities.

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Exhibit R-2 (PE 0305154F)

RDT&E BUDGET ITEM JUST	IFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhil	19		DATE	7007	
вирсет Астилтү 7 - Operational System Development		PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	Defense A DARP) RC-	irborne F	Reconna	issance	Se Se Se Se Se Se Se Se Se Se Se Se Se S	
(U) B. Program Change Summary (\$ in Thousands)								T
(U) FY1997 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value	FY 1996 0 31,500	FY 1997 0 5,000	FY 1998 0	FY 1999 0		Total <u>Cost</u> 0 36,500		
a. Cong Reductions b. Small Business Innovative Research (SBIR) d. Below Threshold Reprogramming (U) FY1998/1999 Biennial Budget	-1,942 29,558	-120 -130 4,750	0		0	34,308		
 (U) Change Summary Explanation:	ton-recurring er eliminary asses	ngineering (NRE sment of the tech) for the reengi mical feasiblity	ning of the F	CC-135. No	o additional fur	nds requested. 1 of the field lase	
Technical:								
(U) C. Other Program Funding Summary (\$ in Thousands)							F F	
(U) Not Applicable	FY 1997 FY	FY 1998 FY 1999	FY 2000	FY 2001	FY 2002	FY 2003		Cost
	Page	Page 2 of 11 Pages			Exhibi	Exhibit R-2 (PE 0305154F)	5154F)	
		1638						

RDT&E BUDGET ITEM JUSTIFICATI	FEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	onnaissance
(U) D. Schedule Profile 1 EY 1996 1 2 3 4 (U) Reenginging - Non-recurring engineering (NRE) delivery (4590) (U) FLD - Long Range Stand-off Detection (4607) (U) FLD - Signatures & Backgrounds Measurements (4607) (U) FLD - Advanced Transmitter Development (4607) (U) FLD - Target Chemical Spectral Database (4607) (U) FLD - Simulation and Modeling (4607)	FY 1997 2 3 4 1 2 3 X X X X X X X X X X X X X	$\begin{array}{cccccccccccccccccccccccccccccccccccc$
Pa	Page 3 of 11 Pages	Exhibit R-2 (PE 0305154F)

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RDT&E BUDGET ITI	EM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	8-2 Exhi	bit)		DATE Fe	February 1997	997
вирсет Астилтү 7 - Operational System Development	ţ		PE NI 030 Pro	PE NUMBER AND TITLE 0305154F Defer Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airbo Program (DARP) RC-135	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	Reconna	issance		РВОЈЕСТ 4590
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4590 DARO Engines	29,558	0	0	0	0	0	0	0	0	29,558
(U) A. Mission Description and Budget Item Just	stification									
(U) This project provides the non-recurring engineering to support reengining of the RC-135.	ngineering to	support ree	ngining of th	ne RC-135.						
(U) The reengining of an RC-135 consists of four CFM56 engines with a service bulletin installed to obtain 5th and 9th stage bleed air, turbine engine monitoring system, fire detection and extinguishing system, new electrical power generation sytem, new nacelles and struts, new fairings, new fairings, new fairings of wing structure in the strut area, fuel temperature probes, strengthened main landing gear, jet fuel starter on one engine in lieu of the auxilliary power units, overheat warning, revised nose wheel steering, flight control augmentation system, dual fuel level control valves and associated cockpit controls and displays associated with the new/revised systems.	four CFM56 a, new electribes, strength mentation sy	engines wit ical power g ened main la stem, dual fu	h a service bu eneration syt nding gear, j el level conti	ulletin instal tem, new nac jet fuel starte rol valves ar	lled to obtain celles and str er on one eng nd associated	of the strange of the	stage bleed rings, new fa of the auxilli trols and dis	air, turbine e un ducts, rein ary power ur splays associ	engine mon nforcements nits, overhed iated with th	itoring of wing it warning, ie
(U) Reengining the RC-135 aircraft will increase its mission effectiveness by increasing operating altitude/sensor coverage, range and time-on-station.	ase its missic	n effectiven	ess by increa	ısing operati	ing altitude/s	ensor covera	ige, range ar	ıd time-on-st	tation.	
(U) FY 1996 (\$\frac{\psi}{\text{in Thousands}}\$: - (U) \$29,558 Non Recurring Engineering - (U) \$ - (U) \$ - (U) \$ - (U) \$\$	ing									
(U) <u>FY 1997 (\$ in Thousands):</u> - (U) \$ - (U) \$										
– (U) \$ - (U) \$0 Total (No additional funding requested)	ıding request	ed)								·
Project 4590			Page 4 of 11 Pages	11 Pages			Exhib	Exhibit R-2 (PE 0305154F)	3305154F)	
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RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	it)	DATE Februa	February 1997
вирдет Астіvity 7 - Operational System Development		PE NUMBER AND TITLE 0305154F Defer Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airbo Program (DARP) RC-135	rborne Recc	o ππ∟ε Defense Airborne Reconnaissance DARP) RC-135	PROJECT 4590
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$ - (U) \$ - (U) \$ - (U) \$ - (U) \$						
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$ - (U) \$ - (U) \$ - (U) \$ - (U) \$						
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY1997 President's Budget (U) Appropriated Value	$\frac{\text{FY } 1996}{0}$ 31,500	FY 1997 0	FY 1998 0	FY 1999 0	Total <u>Cost</u> 0 31,500	
a. Below Threshold Reprogramming (U) FY 1998/1999 Biennial Budget	-1,942 29,558	0	0	0	-1,942 29,558	
(U) Change Summary Explanation: Funding: \$31.5M Congressional plus-up to provide for the	he non-recurring	engineering to re	engine the RC-1	35. No additiona	to provide for the non-recurring engineering to reengine the RC-135. No additional funding is requested.	
Schedule:						
Technical:						
Project 4590	Pag	Page 5 of 11 Pages		Э	Exhibit R-2 (PE 0305154F)	54F)
		1641				

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RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	E February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	PROJECT ance 4590
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY 1997 E	FY 1998 FY 1999 FY 2000 FY 2001 FY 2002 FY	To Total <u>FY 2003</u> <u>Compl</u> <u>Cost</u>
(U) D. Schedule Profile FY 1996 1 2 3 4 (U) Non recurring engineering delivery	FY 1997 2 3 4 1 2 3 4 X	FY 1999
Project 4590	Page 6 of 11 Pages	Exhibit R-2 (PE 0305154F)

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R	RDT&E PROGRAM EL	GRAM EI		EMENT/PROJECT COST BREAKDOWN (R-3)	COST	BREAKD	OWN (R.	3)	DATE	February 1997	766
BUDGET ACTIVITY 7 - Operation	BUDGET ACTIVITY 7 - Operational System Development)evelopme	ıt	-	PE NUMBER AN 0305154F Program (I	PE NUMBER AND TITLE 0305154F Defense Airbo Program (DARP) RC-135	nse Airbor) RC-135	D TITLE Defense Airborne Reconnaissance DARP) RC-135	naissanc		РКОЈЕСТ 4590
(U) A. Project	(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	(\$ in Thousan	ds)								
				FY 1996		FY 1997	FY 1998	FY 1999	6		-
(U) Non Recurring Engineering (U) Total	ng Engineering			\$29,558 \$29,558	58 58				ı		
(U) B. Budget A	(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>	ry and Plannii	<u>ıg Informatior</u>	ı (\$ in Thousa	(spu						
Performing Organizations:	anizations:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Developn ASC/RAB	Product Development Organizations ASC/RAB		\$29,558	\$29,558	0	\$29,558	0	0	0	0	\$29.588
Support and Mana	Support and Management Organizations	tions									
Test and Evaluation Organizations	on Organizations										
Project 4590				Pa	Page 7 of 11 Pages	šes		Fxhi	Exhibit R-3 (PF 0305154E)	0305154E)	
					. 2.20				2 1 2 1 2	1401000	

RD	T&E PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3	3	DATE	Fohrusay 4007	200
BUDGET ACTIVITY 7 - Operational System Development	al System De	velopmen		PE NUMBER AND TITLE 0305154F Defer Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airbo Program (DARP) RC-135	e Airborn	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	aissance	an idal	PROJECT 4590
(U) B. Budget Aco	quisition History	and Planning	Budget Acquisition History and Planning Information Continued (\$ in Thousands)	in Thousands)						
Government Furnished Property:	ished Property:									
Item <u>Description</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property	nt Property									
Support and Management Property	ement Property									
Test and Evaluation Property	Property									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	velopment d Management valuation									
Total Project										
Project 4590			ć							
			ra	rage o of 11 rages			Exhi	Exhibit R-3 (PE 0305154F)	0305154F)	

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	?-2 Exhi	bit)		DATE	February 1997	6
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 030	PE NUMBER AND TITLE 0305154F Defer Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	Airborne -135	Reconna	issance	Dinaiy is	991 PROJECT 4607
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4607 COBRA BALL (FLD)	0	4,750	0	0	0	0	0	0	0	4,750
(U) A. Mission Description and Budget Item Jus	Justification									
(U) This project conducts Congressionally directed design studies, analyses, and other efforts associated with determining the feasibility of downsizing the currented laser radar demonstration (FLD) for possible future installation on airborne platforms. The results of the effort will provide a preliminary assessment of the technical feasibility, operability and general military utility of developing an airborne application of the FLD.	directed design studies, analyses, and other efforts associated with determining the feasibility of downsizing the current assible future installation on airborne platforms. The results of the effort will provide a preliminary assessment of the military utility of developing an airborne application of the FLD.	studies, anal stallation on of developin	yses, and oth airborne plat ig an airborn	her efforts as tforms. The e application	ssociated with results of the results of the	h determinin e effort will	ig the feasib provide a pr	llity of down eliminary as	nsizing the cu ssessment of	rrent the
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$ - (U) \$										
- (U) \$ - (U) \$ - (U) \$0										
(U) FY 1997 (\$ in Thousands): - (U) \$2,650 Long Range Stand-off Detection - (U) \$500 Signatures & Backgrounds Measurements - (U) \$1,100 Advanced Transmitter Development - (U) \$280 Target Chemical Spectral Database - (U) \$220 Simulation & Modeling - (U) \$4,750 Total	etection ds Measurem evelopment I Database	ents								
(U) FY 1998 (\$ in Thousands): - (U) \$ - (U) \$ - (U) \$ - (U) \$ - (U) \$ - (U) \$	ding is reques	ited)								
Project 4607			Page 9 of 11 Pages	I Pages			Exhibil	Exhibit R-2 (PE 0305154F)	305154F)	

RDT&E BUDGET ITEM JUST	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibi	it)	DATE Februs	February 1997
вирбет Астіvітץ 7 - Operational System Development		PE NUMBER AND TITLE 0305154F Defer Program (DARP	PE NUMBER AND TITLE 0305154F Defense Airbo Program (DARP) RC-135	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	ınaissance	PROJECT 4607
(U) FY 1999 (\$ in Thousands): - (U) \$ - (U) \$ - (U) \$ - (U) \$ - (U) \$						
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY1997 President's Budget (U) Appropriated Value	FY 1996	FY 1997 0 5,000	FY 1998	FY 1999	Total Cost 0 5,000	
(U) Adjustments to Appropriated Value a. Cong Reductions b. Small Business Innovative Research (SBIR) (U) FY1998/1999 Biennial Budget		-120 -130 4,750	0	0	-120 -130 4,750	
(U) Change Summary Explanation: Funding: \$5M appropriated by Appropriations Conference Committee. No additional funding is requested.	e Committee. N	o additional func	ing is requested.			
Schedule:						
Technical:						
Project 4607	Page	Page 10 of 11 Pages		Û	Exhibit R-2 (PE 0305154F)	154F)
		1646				

RDT&E BUDGET	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
вирбет Астииту 7 - Operational System Development	PE NUMBER AND TITLE 0305154F Defense Airborne Reconnaissance Program (DARP) RC-135	PROJECT
(U) C. Other Program Funding Summary (\$ in Thousands)	(Spu	
(U) Not Applicable	996 FY 1997 FY 1998 FY 1999 FY 2000 FY 2001 FY 2002	To Total 002 FY 2003 Compl Cost
(U) D. Schedule Profile		
(U) Long Range Stand-off Detection (U) Signatures & Backgrounds Measurements (U) Advanced Transmitter Development (U) Target Chemical Spectral Database (U) Simulation and Modeling	FY 1997 FY 1998 FY 1998 A 1 2 3 4 1 2 3 4 X X X X X X X X X X X X X X X X X X	FY 1999 4 1 2 3 4
Project 4607	Page 11 of 11 Pages	Exhibit R-2 (PE 0305154F)

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PE NUMBER: 0305158F

PE TITLE: Constant Source

UNCLASSIFIED

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	₹-2 Exhi	bit)		DATE Fe	February 1997	766
BUDGET ACTIVITY 7 - Operational System Developmen	nt		PE NI 030	PE NUMBER AND TITLE 0305158F Constant Source	TITLE Sonstant	Source				
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	2,872	2,799	258	242	249	252	257	264	Cont	TBD
4394 Combat Intelligence System	1,989	1,954	0	0	0	0	0	0	0	3,956
4395 Radio	883	845	258	242	249	252	257	264	Cont	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) Note: The funding request for Project 4394 Combat Intelligence System (CIS) for FY98 and later has been reprogrammed into PE 0207414F. Together with other funds from PEs 0604321F and 0207431F, this was done to consolidate RDT&E funding in a single PE, for program clarity, and reporting efficiency.

(U) A. Mission Description and Budget Item Justification

This program was established as part of the Air Force Tactical Exploitation of National Capabilities (TENCAP) normalization effort. Recently, the Constant Source Operator Terminal (CSOT) functionality was transformed into the Combat Intelligence System (CIS). This terminal processes the near-real-time threat information radio called Multi-mission Advanced Tactical Terminal (MATT) with US Special Operations Command (SOCOM), Defense Support Program Office (DSPO), and utilized by combat units/aircrews for mission planning and execution. The radio project in this program enables the warfighter to access critical data provided by the Navy. This Program Element is assigned in Budget Activity 7, Operational System Development because it involves post-Milestone III efforts and supports national and tactical intelligence sources. Currently over 130 ground systems are deployed. Air Force is jointly developing and procuring an airborne qualified development of operational systems.

(U) Acquisition Strategy:

Project 4394 - Full and open competition led to a Cost Plus Award Fee contract with Lockheed Martin Command and Control Systems.

Project 4395 - Technology transfer from the Naval Research Laboratory to the contractor. Evolutionary acquisition strategy was implemented with a core capability procured during the first production option. Firm Fixed Price.

Page 1 of 11 Pages

Exhibit R-2 (PE 0305158F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Feb	February 1997	
вирсет Астилу 7 - Operational System Development		PE N	PE NUMBER AND TITLE 0305158F Constant Source	TITLE CONStant	Source				-
 (U) B. Program Change Summary (\$\\$\\$\\$\\$\ in Thousands\$) (U) FY 97 President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. Small Business Innovative Research c. Below Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB 	FY 1996 2,892 3,089 -107 -59 -5	됩	FY 1997 2,914 2,914 -70 -45	FY 1998 870 -612	FY 1999 815		Total Cost TBD		
(U) Change Summary Explanation:	7,8,7		2,799	258	7	242	TBD		
Funding: FY 98/99 reductions due to CIS consolidatic Schedule: N/A Technical: N/A	consolidation in PE 0207414	414.							
(U) C. Other Program Funding Summary (\$ in Thousands)	ଷ							I	
(U) Other Procurement, AF (0305158F) 5,494 (U) O&M, PE 0207431, CAIS 10,826	FY 1997 7,583 3,479	FY 1998 8,350 3,330	FY 1999 4,424 3,353	FY 2000 5,390 4,326	FY 2001 8,015 5,371	FY 2002 8,959 5,488	FY 2003 9,034 5,615	To Cont Cont	Total Cost TBD TBD
(U) D. Schedule Profile - See individual projects for Schedule Profiles.	Profiles.								
		Page 2 of 11 Pages	1 Pages			Exhib	Exhibit R-2 (PE 0305158F)	05158F)	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	t		PE NI 030	PE NUMBER AND TITLE 0305158F Cons	PE NUMBER AND TITLE 0305158F Constant Source	Source			4	РКОЈЕСТ 4394
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4394 Combat Intelligence System	1,989	1,954	0	0	0	0	0	0	0	3,956
	1 THE COLOR OF THE CO. I. S. A. P. C. C. C. C. C. C. C. C. C. C. C. C. C.		(010)	O CANA				אין די שי שאיז די ססס דים יייני		

(U) Note: The funding request for Project 4394 Combat Intelligence System (CIS) for FY98 and later has been reprogrammed into PE 0207414F. Together with other funds from PEs 0604321F and 0207431F, this was done to consolidate RDT&E funding in a single PE, for program clarity, and reporting efficiency.

(U) A. Mission Description and Budget Item Justification

deployment to the theater and provides indications and warning support after arrival. CIS provides the capability to receive all-source intelligence near-real-time from national, theater, and tactical reconnaissance platforms. CIS is electronically interoperable and compatible with other intelligence systems, providing an integrated all-source intelligence data to support Contingency Theater Automated Planning System (CTAPS). CIS builds and maintains in-theater situational awareness during segment to Theater Battle Management Core Systems (TBMCS), it provides an automated capability at the component and unit levels to rapidly receive and process functions to provide warfighters with the most accurate and timely intelligence data available. CIS is the core capability for automating the receipt, correlation, and dissemination of intelligence information to a variety of intelligence and operational systems which support combat planning and execution. As the intelligence (U) Combat Intelligence System (CIS) is the Air Force's single, standard automated intelligence system optimizing both component and unit-level intelligence network capable of intelligence support to decision makers, battle planners, mission planners, and warfighters.

(U) FY 1996 (\$ in Thousands):

- (U) \$ 468 Continue SCI level correlation enhancements
- (U) \$1,216 Auto Associator Enhancements under Theater Battle Management (TBM) Core Systems
 - J) \$ 305 Conduct Studies for future CIS intelligence interoperabilities
 - (U) \$ 305 Conduct (U) \$1,989 Total

(U) FY 1997 (\$ in Thousands):

- (U) \$ 245 Continue studies for CIS intelligence interoperability
- (U) \$1,202 Continue CIS software development under TBM Core Systems
- (U) \$ 507 Implement results of studies into CIS software under TBM Core Systems
 - (U) \$1,954 Total
- (U) FY 1998 and FY 1999. Funding is programmed in PE 0207414F.

Project 4394

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Page 3 of 11 Pages

Exhibit R-2 (PE 0305158F)

RDT&E BUDGET ITEM JUSTIF	EM JUSTIFICATION SHEET (R-2 Exhibit)	ET (R-2 Exhib	it)	DATE February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AN 0305158F	PE NUMBER AND TITLE 0305158F Constant Source	ource	PROJECT 4394	јест 4
(U) B. Program Change Summary (\$ in Thousands)				Totol	
(U) FY97 President's Budget (U) Appropriated Value	FY 1996 2035 2,009 2035 2,150 2035	55 FY 1998 607	FY 1999 569	TBD	
a. Cong Reductions b. Small Business Innovative Research c. Below Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB		-50 -31	-569		
(U) FY 1998/1999 Biennial Budget	1,989 1,954	54 0	0	TBD	
 (U) Change Summary Explanation: Funding: FY 98/99 reductions due to CIS consolidation into PE 0207414F. Schedule: N/A Technical: N/A 	PE 0207414F.				
(U) C. Other Program Funding Summary (\$ in Thousands) - See Other Program Funding Summary above.	Other Program Fundin	g Summary above.			
(U) D. Schedule Profile FY 1996	FY 1997	<u>767</u>	FY 1998	FY 1999	
(U) CIS 1.2 Release (U) TBMCS Contract Award (U) TBMCS 1.0 Release (U) Initial Operational Capability	4 1 2	e X 4	2 × 3	x x 3	4
Project 4394	Page 4 of 11 Pages	ages	Ш	Exhibit R-2 (PE 0305158F)	
	1652				

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RD	RDT&E PROGRAM E		EMENT/	-EMENT/PROJECT	COST	3REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	ıl System D	evelopme	1		PE NUMBE 03051	PE NUMBER AND TITLE 0305158F Cons	PE NUMBER AND TITLE 0305158F Constant Source	e,	1		РВОЈЕСТ 4394
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousand	्हा इक्	FY 1996		FY 1997	FY 1998	FY 1999			
(U) Software Development(U) Systems Engineering Support(U) Program Management Support(U) Total	lopment eering Support gement Support			1,678 134 177 1,989	8 # 12 *	1,634 130 190 1,954	0000		000 0		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	quisition Histor	y and Plannin	ig Information	ı (\$ in Thousar	<u>হ্</u> য						
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Organizations Lockheed Martin SS/CPAF Cmnd & Ctrl Syst F19628-95-C0143 and various others	nt Organizations SS/CPAF	Oct 95	TBD	TBD	2,301	1,691	1,634	0	0	0	3,406
Support and Management Organizations MITRE Or TEMS Various Contractors	ement Organizat.	<u>ions</u> On going On going	TBT CBT	TBD TBD	551 271	134	130	0 0	0 0	0 0	815
Test and Evaluation Organizations - N/A	Organizations -	N/A									
Project 4394				Pa_{i}	Page 5 of 11 Pages	ges		Exh	Exhibit R-3 (PE 0305158F)	0305158F)	
					1653						

RDT&E PROGRAM ELEMENT/P	EMENT/PROJECT COST BREAKDOWN (R-3)	AKDOW	N (R-3		DATE	Fohman, 1007	67
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305158F Cons	D TITLE Constant Source	Source			P P	PROJECT 4394
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	Continued (§ in Thousands)						
Government Furnished Property: N/A							
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to F FY 1996 FY	Budget EY 1996 FY	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property							
Support and Management Property							
Test and Evaluation Property							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	2,301 822 0	1,678 311 0	1,634 320 0	0 0 0	000	000	5626 1,453
Total Project	3,123	1,989	1,954	•	0	0	7,079
Project 4394	Page 6 of 11 Pages			Exhib	Exhibit R-3 (PE 0305158F)	0305158F)	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhil	bit)		DATE Fe	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development	īt		PE NI 030	PE NUMBER AND TITLE 0305158F Cons	PE NUMBER AND TITLE 0305158F Constant Source	Source			g 4	PRОЈЕСТ 4395
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4395 Radio	883	845	258	242	249	252	257	264	Cont	TBD

(U) A. Mission Description and Budget Item Justification

(U) This program provides the capability to receive near-real-time threat information utilized by combat units/aircrews for threat warning, mission planning, and execution. It enables the warfighter to access critical data provided by national and tactical intelligence sources. Current fielded radios include the Tactical Receive Equipment (TRE) and Multi-mission Advanced tactical terminal (MATT). The MATTS are being integrated into air and ground platforms which require tactical broadcast functionality. The follow on capability will be provided by the Joint Tactical Terminal and/or Common Integrated Broadcast Service Modules (CIBS-M).

FY 1996 (\$ in Thousands): 3

- Plan and support integration on DoD aircraft and weapon systems (U) \$ 150

 - Support MATT radio P³I development effort
 Support migration of MATT into next generation tactical terminal
 Total (U) \$ 633 (U) \$ 100 (U) \$ 883

FY 1997 (\$ in Thousands): 3

- Plan and support integration on DoD aircraft and weapon systems (U) \$ 150 (U) \$ 595 (U) \$ 100 (U) \$ 845

 - Support MATT radio P³I development effort Support migration of MATT into next generation tactical terminal

FY 1998 (\$ in Thousands): 3

- Plan and support integration on DoD aircraft and weapon systems 150 108 258 \$ **\$ \$** 566
- Support migration of MATT into next generation tactical terminal Total

Project 4395

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Exhibit R-2 (PE 0305158F)

RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	SHEET (R-2 Exhib	it)	DATE Fohriga, 1007	67
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305158F Cons	D TI⊓LE Constant Source	ource	PF	PROJECT 4395
(U) FY 1999 (\$ in Thousands): - (U) \$ 150 Plan and support integration on DoD aircraft and weapon systems - (U) \$ 92 Support migration of MATT into next generation tactical terminal - (U) \$ 242 Total	DD aircraft and weapon lext generation tactical	systems terminal				
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY97 President's Budget (U) Appropriated Value	FY 1996 870 939	FY 1997 879	FY 1998 263	FY 1999 246	Total <u>Cost</u> TBD	
a. Cong Reductions b. Small Business Innovative Research	-34	-20 -14			,	
(U) Adjustments to Budget Years Since FY 1997 PB (U) FY 1998/1999 Biennial Budget	-10 883	845	-5 258	-4 242	TBD	
(U) Change Summary Explanation:						
Funding: N/A Schedule: N/A Technical: N/A						
(U) C. Other Program Funding Summary (\$ in Thousand	[housands] - See Other Program Funding Summary above.	Funding Sum	mary above.			
					•	
Project 4395	Page 8	Page 8 of 11 Pages		ũ	Exhihit R-2 (DE 0305158E)	

The veries 1 2 3 4 1 1 2 3 4 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 2 3 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit) PATE February 1997
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	PROJECT 0305158F Constant Source 4395
	998 FY 1999 3 4 1 2 3
Project 4395	. 9 of 11 Pages Exhibit R-2 (PE 0305158F)

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RD	RDT&E PROGRAM EL	GRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R	3)	DATE) b	
BUDGET ACTIVITY 7 - Operational System Development	al System D	evelopme	ţ		PE NUMBER AN 0305158F	PE NUMBER AND TITLE 0305158F Const	D TITLE Constant Source			PROJ	PROJECT 4395
(U) A. Project Cost Breakdown (S in Thousands)	st Breakdown	(\$ in Thousand	क्ष	FY 1996		FY 1997	FY 1998	FY 1999			
(U) Software Development(U) Travel(U) Government Engineering Support(U) Total	lopment ngineering Supp	iort		553 100 230 883		515 100 230 845	58 75 125 258	42 75 75 125 242	N. OLIG		
(U) B. Budget Acquisition History and Plannin	quisition Histor	y and Plannin	g Information	g Information (\$ in Thousands)	(Sp						
Performing Organizations: Contractor or Contract Government Method Performing or Fundi Activity Vehicle	izations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
Product Development Organizations Allied Signal, Inc. FFP MDA911-93- C0008	nt Organizations FFP	<u>s</u> Apr 93	TBD	TBD	0	553	515	28	45	Cont	TBD
and 1 BD Support and Management Organizations Mission Support On Test and Evaluation Organizations - N/A	ement Organizat	<u>lions</u> Ongoing N/A			0	330	330	200	200	Cont	ТВD
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands) Government Furnished Property:	uisition Histor	y and Plannin	g Information	Continued (\$ in	n Thousands)						
Project 4395				Page	Page 10 of 11 Pages	es		Exhit	Exhibit R-3 (PE 0305158F)	0305158F)	

RDT&	RDT&E PROGRAM EL		EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	WN (R-3		DATE F.	February 1997	797
BUDGET ACTIVITY 7 - Operational System Development	System De	velopmen	ţ	PE NUMBER AND TITLE 0305158F Cons	AND TITLE F Consta	D TITLE Constant Source				PROJECT 4395
Item <u>Description</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property	Property									
Support and Management Property	cent Property									
Test and Evaluation Property	operty									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	lopment Management uation				553 330	515 330	5 8 200	42 200	Cont	TBD
Total Project					883	845	258	242	Cont	TBD
Project 4395			Page	Page 11 of 11 Pages	ž		Exhit	Exhibit R-3 (PE 0305158F)	0305158F)	
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PE NUMBER: 0305160F PE TITLE: Def Meteorological Satellite Prog (Space)

	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICA	TION S	HEET (F	R-2 Exhi	bit)		DATE Fe	February 1997	797
BUDGET ACTIVITY 7 - Operation	вирсет Астинт 7 - Operational System Development	, t		9E N	PE NUMBER AND TITLE 0305160F Def N (Space)	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog (Space)	rologica	Satellite	Prog		PROJECT 0001
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
0001 DMSP		18,221	14,769	14,076	19,143	18,920	18,003	14.965	11,547	19,700	831,100
Quantity of R	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(U) A. Mission D The Defense itimely, quality global weather information. polar orbit at: Activity 7,0p directed conw	A. Mission Description and Budget Item Justification The Defense Meteorological Satellite Program (DMSP) is a fully operational joint-service program supporting all military services. Operational commanders require timely, quality weather information to effectively employ weapon systems and protect DoD resources. DMSP is the DoD's most important and often the only source of global weather data. It provides visible and infrared cloud cover imagery (1/3 nm constant resolution) and other meteorological, oceanographic, and solar-geophysical information. This data is required over the entire earth to support global and theater military operations. At least two satellites are required in sun synchronous 450nm polar orbit at all times (sun synchronous means the satellites cross the equator at the same local sun time on each of their 14 orbits/day). This program is in Budget Activity 7,Operational Systems Development,because it supports the current operational DMSP program. Vice President Gore's National Performance Review directed convergence of DMSP with NOAA's weather satellite system. In FY 98, DMSP satellite operations at NOAA's Suitland MD Satellite Operations Control Center (SOCC).	tiffication (DMSP) is a cly employ we carth to suite earth to suite suite suite suite.	tfully opera reapon syste cover image upport globa s cross the e sports the cu llite system.	tional joint:	service progrect DoD rest constant reso remilitary op same local ional DMSP satelli	ram supportii ources. DMS lution) and o erations. At sun time on e program. V te operations	ng all militar SP is the Dol wher meteorc least two sat each of their ice President	y services. ()'s most imp logical, oce ellites are re 14 orbits/da t Gore's Nat	Operational contant and of anographic, a quired in sur yy. This projional Perform	commanders fren the only and solar-ge 1 synchrono gram is in B mance Revie e operations	require source of ophysical as 450nm udget w at
(U) <u>FY 1996</u> - (U) \$14,407 - (U) \$1,951 - (U) \$200 - (U) \$238 - (U) \$338 - (U) \$306 - (U) \$319 - (U) \$119	Continue system integration and test, calibration and validation, and related support activities. Continue enhanced Small Tactical Terminal (mobile weather terminal) algorithm development. Continue MARK IVB tactical weather terminal enhanced algorithm integration. Continue Titan II integration effort (transition from Atlas E due to inventory depletion). Support civilian (DOC/NOAA)/military command and control consolidation efforts Continue Special Sensor Microwave Imager/Sounder (SSMIS) contract litigation support. Total	d test, calibra cal Terminal weather term. Fort (transitic /military con	ation and va (mobile we inal enhance on from Atla nmand and c	lidation, anc aather termir ed algorithm is E due to ii control consi	I related supparal) algorithm integration. Inventory depolidation effcract fraction of the state	oort activities n developme: sletion). orts 1 support.	s. nt.				
(U) <u>FY 1997</u> - (U) \$12,060 - (U) \$631 - (U) \$1,428 - (U) \$650 - (U) \$14,769	Continue system integration and test, calibration and validation, and related support activities. Complete Small Tactical Terminal (mobile weather terminal) enhanced algorithm development and implementation. Begin Mark IVB tactical weather terminal software upgrade for the next block of satellites (5D-3) Continue Titan II integration effort (transition from Atlas E due to inventory depletion)	l test, calibra nal (mobile 1 sr terminal so fort (transitio	tion and val weather terrr oftware upgi n from Atla	lidation, and ninal) enhan- rade for the is E due to ir	related supp ced algorithn next block of iventory dep	oort activities n developme f satellites (5. letion)	s. ent and imple (D-3)	ementation.			_
Project 0001				Page 1 of 6 Pages	6 Pages			Exhibit	Exhibit R-2 (PE 0305160F)	305160F)	
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	RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE February 1907	1997
BUDGET ACTIVITY 7 - Operations	вирсет Астииту 7 - Operational System Development		PENUMBER AND TITLE 0305160F Def N (Space)	Def Meteor	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog (Space)	I rebluary	PROJECT 0001
(U) <u>FY 1998</u> - (U) \$9,770 - (U) \$1,212 - (U) \$2,050 - (U) \$1,044 - (U) \$14,076	Continue system integration and test, calibration and validation, and related support activities. Continue Titan II integration effort (transition from Atlas E due to inventory depletion). Begin Small Tactical Terminal (mobile weather terminal) tactical cloud analysis software upgrades. Continue Mark IVB tactical weather terminal software upgrade for the next block of satellites (5D-3) Total	ation and validation on from Atlas E du ther terminal) tacti al software upgrad	n, and related su te to inventory d ical cloud analys e for the next bl	pport activities. epletion). ils software upgr ock of satellites (ades. (5D-3)		
(U) <u>FY 1999</u> - (U) \$15,209 - (U) \$1,311 - (U) \$2,058 - (U) \$565 - (U) \$19,143	Continue system integration and test, calibration and validation, and related support activities. Continue Titan II integration effort (transition from atlas E due to inventory depletion). Continue Small Tactical Terminal (mobile weather terminal) tactical cloud analysis software upgrades. Continue Mark IVB tactical weather terminal software upgrade for the next block of satellites (5D-3) Total	ution and validation on from atlas E due veather terminal) to	n, and related su e to inventory de actical cloud ans e for the next ble	pport activities. spletion). ılysis software u _l ock of satellites (pgrades. (5D-3)		
 (U) B. Program Change Summan (U) Appropriated Value (U) Adjustments to Appropriated Va. Cong Gen Reductions b. SBIR c. Omnibus or Above Threshod d. Below Threshold Reprogrance. Recission (U) Adjustments to Budget Years S (U) Current Budget Submit/Preside (U) Change Summary Explanation: Funding: FY 98/99 adjust Schedule: Launch of F-14 Technical: No changes. 	(U) B. Program Change Summary (\$ in Thousands) FY 1996 19,913 FY 1997 17,964 16,901 FY 1998 19,622 FY 1999 10,522 (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR -533 -533 -564 19,622 19,613 17,964 16,901 19,622 19,622 19,622 19,622 19,622 19,622 19,622 19,622 10,143 19,622 10,143	FY 1996 19,913 -1,560 -131 18,221 rand DoD requirer	EY 1997 17,964 15,664 -533 -362 14,769 ments.	FY 1998 16,901 -2,825 14,076 F-15 1Q FY 99	FY 1999 19,622 -479 19,143 (as projected).		
Project 0001		Page	Page 2 of 6 Pages		Ü	Exhibit R-2 (PE 0305160F)	(=

RDT&E BUDGET ITE	M JUST	IFICA	TION SE	teet (R	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ibit)		DATE Fet	February 1997	97
вироет Астилт 7 - Operational System Development			PE NU 030 (Sp	PE NUMBER AND TITLE 0305160F Def I (Space)	τιτιε)ef Meteα	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog (Space)	l Satellit	e Prog	ā 0	РРОЈЕСТ 0001
 (U) C. Other Program Funding Summary (\$\\$\) in Th (U) Missile Procurement (U) Other Procurement 	n Thousands) EY 1996 27,873 19,889	FY 1997 27,610 15,708	FY 1998 35,243 13,445	FY 1999 36,835 12,541	FY 2000 36,699 10,270	FY 2001 38,325 8,392	FY 2002 35,396 7,994	FY 2003 35,830 3,667	To Compl 71,900 21,400	Total <u>Cost</u> 1,898,711 320,306
Related RDT&E: (U) PE #603434F, National Polar Operational Environmental Satellite System (NPOESS) (U) PE #305160N, DMSP (provides funds for Navy unique studies)										
(U) D. Schedule Profile										
(U) Small Tactical Terminal First Delivery (U) Small Tactical terminal FOT&E (U) 5D-3 Spacecraft Delivery (S16-20) (U) Planned 5D-2 Launches (F-14/F-15) (U) Suitland SOC IOC (DMSP Ops) (U) DMSP SOC Closure	FY 1996 2 3	4 ×	- × H2 ×	FY 1997 2 3 X X X X	4 - X	EY 1998 2 3 X X X	99 × × × × × × × × × × × × × × × × × ×	- ×	FY 1999 2 3	4
Project 0001			Page 3 of 6 Pages	6 Pages			Exhib	Exhibit R-2 (PE 0305160F)	305160F)	
			1663							

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RD	RDT&E PROGRAM E		LEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COST	BREAKE	OWN (R	-3)	DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	l System D	evelopme	nt		PE NUMBER 030516((Space)	PE NUMBER AND TITLE 0305160F Def N (Space)	feteorolo ç	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog (Space)			РКОЈЕСТ 0001
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown ((\$ in Thousan	<u>(sp</u>	FY 1996		FY 1997	FY 1998	FY 1999	<u>6</u> 1		
(U) Launch Vehicle Transition (U) Spacecraft Integration (U) Calibration/Validation (U) Algorithm Development (U) SSMIS Litigation Support (U) On-Orbit Performance Incenti (U) MARK IVB/STT Enhanceme (U) Systems Engineering Support (U) Program Management Support (U) Command and Control Conso (U) Total	Launch Vehicle Transition Spacecraft Integration Calibration/Validation Algorithm Development SSMIS Litigation Support On-Orbit Performance Incentives (primary sensor) MARK IVB/STT Enhancements Systems Engineering Support Program Management Support Command and Control Consolidation Total	res (primary se its idation	nsor)	238 4,978 96 1,154 1,119 0 2,151 4,696 3,483 306 18,221	238 96 96 154 119 0 151 896 483 306	650 3,791 55 1,030 0 2,059 4,031 3,153 0	1,212 3,779 359 548 0 0 3,094 1,695 3,389 0 0	1,311 4,819 1,335 452 0 0 2,623 2,625 5,978 0 19,143	25 25 23 0 0 0 0 0 0 0 13		
(U) B. Budget Acquisition History and Plann Performing Organizations:	luisition Histor zations:		ing Information (\$ in Thousands)	(\$ in Thousar	(spi						
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Lockheed-Martin SS/CPAF Lockheed-Martin SS/CPAF Northrop-Grummn SS/CPAF Lockheed-Martin C/CPAF Harris C/CPAF SM-ALC FCA	nt Organizations SS/CPAF SS/CPAF SS/CPAF C/CPAF C/CPAF FCA	Apr 92 May 97 Apr 90 May 95 Oct 88 Jun 94 Jan 97	4,312 3,658 3,785 3,074 39,466 5,442 4,219	4,312 3,658 3,785 3,074 39,466 5,442 4,219	2,727 0 3,785 0 39,266 2,860 0	1,385 0 0 811 200 1,951	200 333 0 478 0 631 1,428	0 800 0 559 0 0	0 1,000 0 700 0 0 0 565	0 1,525 0 526 0 0 0 1,182	4,312 3,658 3,785 3,074 39,466 5,442 4,219
Project 0001				P.	Page 4 of 6 Pages	ages		Ě	Exhibit R-3 (PE 0305160F	: 0305160F)	

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RD	RDT&E PROGRAM E	SRAM EL	LEMENT/PROJECT COST BREAKDOWN (R-3)	ROJEC	T COST	BREAKE	JOWN (R	(6-	DATE	7	21
BLIDGET ACTIVITY								,		repruary 1997	181
7 - Operational System Development	al System De	evelopmen	#		0305160F		Def Meteorological Satellite Prog	ical Satel	lite Prog	0	РРОЈЕСТ 0001
					(Space)		•			•	
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to	Budget	Budget	Budget	Budget	Budget to	T. 401
Activity	Vehicle	Date	EAC	EAC	FY 1996	FY 1996	FV 1997	FV 1008	FV 1000	Duuget to	1 Olai
SMC/CL (Titan)	PO	Oct 94			282	238	059	1 212	1 2 1 1 2 1 1	Complete	Program
Aerojet	SS/CPAF	May 92	1,990	1,990	787	296	209	212,1	11,5,1		Cont
Aerojet	C/CPAF	Mar 89	36,062	36,062	35.886	149	77	•			0,670
TBD (SSMIS Sys	TBD	Dec 97			0		ì	312	0 00	0 000	20,000
Eng Spt)					,	>	>	CI/	909	3,300	4,887
Hughes	SS/CPFF	May 91	1,092	1.092	1.082	01	C	c	•	c	
Hughes	SS/CPFF	May 96	658	658	i C	27	300	2	0 %) ;	1,092
Phillips Lab	MIPR/PD	Oct 95		2	2007	27.	190	107	071	124	658
Lockbeed-Martin	C/CDAE	[m] 0.1	700 1	,	2,090	(7)	1,017	2,985	3,426	Cont	Cont
I colchood Martin	76.00	Jul 21	070'/	070'/	1,026	0	0	0	0	0	7,026
LUCKITCCU-IVIATUII	CCFAF		6,893	6,893	6,893	0	0	0	0	0	6,893
NKL	MIPR/Various				755	1,201	1.024	547	748) do	tuo'
APL	MIPR/Various	Oct 95			200	760	536	374	760	Cont	Cont
SMC (Det 3	FCA	Dec 95			0	306	0		9		Cont
(SSSG)							1	>		•	995
Sandia	MIPR/Various	Oct 96			0	286	240	331	874	Cont	Cont
Other	Various				1,603	290	216	224	230	Cont	Cont
Support and Management Organizations	ement Organizati	suc									
FFRDC	MORD*	Oct 95			4.171	3.230	2375	1 695	1 175	i	,
PRC	C/CPAF	Aug 95			0	1,466	1.656	0,0	1,120	Coult	Cont
Program Mgmt					2,359	3,483	3,153	3.389	5.978	Cont	i tuo
Litigation Support		,			069	1,119	0	0	0	0	1.809
Omer	Various	Jul 91			1,958	0	0	0	0	0	1.958

^{*}MORD - Miscellaneous Obligation/Reimbursement Document -a vehicle/method for committing and obligating funds. In this case the program office sends a letter to SMC/FM to commit & obligate the funds programmed for Aerospace support.

Test and Evaluation Organizations Not Applicable.

Project 0001

Page 5 of 6 Pages 1665

Exhibit R-3 (PE 0305160F)

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BRE	AKDOV	VN (R-3)		DATE Feb	February 1997	7
вирдет Астилтү 7 - Operational System Development	PE NUMBER AND TITLE 0305160F Def Meteorological Satellite Prog	ID TITLE Def Mete	orologic	al Satellit	e Prog	PROJE 0001	РRОЈЕСТ 0001
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	n Thousands)						
Government Furnished Property: Not Applicable.							
Subtotal Product Development Subtotal Support and Management	105,248 9,178	8,923 9,298	7,585 7,184	8,992 5,084	10,540 8,603	Cont	Cont
Project Total	114,426	18,221	14,769	14,076	19,143	Cont	Cont
Project 0001	Page 6 of 6 Pages			Exhib	Exhibit R-3 (PE 0305160F)	305160F)	

PE NUMBER: 0305164F PE TITLE: Navstar Global Pos Sys (User Eq) (Space)

RDT&E BUDGET II	ITEM INSTITITION SHEET (B 2 Exhibit)	TIFICA	TION OF	JEET /c	2 2 Evhi	1		DATE		
				-) DIC)		Fe	February 1997	997
7 - Operational System Development	nt		030 (Sp	PE NUMBER AND TITLE 0305164F Navs (Space)	тте lavstar G	lobal Po	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	ser Eq)		РRОЈЕСТ 3028
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3028 Navstar GPS (User Equipment)	16,314	29,810	46,300	68,590	46,637	23,075	16,028	16,457	97,600	360,811
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
(U) A. <u>Mission Description and Budget Item Justification</u> The Global Positioning System (GPS) is a space-based radio positioning, navigation, and time distribution system. GPS User Equipment (UE) consists of standardized receivers, antennas, antenna electronics, etc., grouped together to form sets which derive navigation and time information utilizing data transmitted by the satellites. These receiver sets are used by all the Services and DoD. RDT&E funds UE development and testing, studies and engineering to assist integration into aircraft, software upgrades, product improvement studies, testing and evaluation of commercial GPS UE, and mission support. UE passed DAB Milestone IIIB in January 92 and is, therefore, in Budget Activity 7, Operational System Development.	Justification space-based radic space-based radi	o positioning ner to form s DT&E fund I evaluation Developmen	,, navigation sets which de lets which de le UE develo of commercit.	, and time d srive naviga pment and t	istribution sy tion and time esting, studie, and mission	/stem. GPS information es and engin 1 support. L	User Equipr n utilizing da eering to ass IE passed D/	nent (UE) cc tta transmitte ist integratio AB Mileston	onsists of sta ed by the sate on into aircra e IIIB in Jan	ndardized ellites. ft, uary 92
 (U) FY 1996 (\$\sin Thousands): (U) \$452 (U) \$452 (D) \$879 (D) \$879 (E) \$639 (E) Continue development testing for aircraft integrations. (E) \$639 (E) Conduct GPS receiver product improvement studies. (E) \$322 (E) \$322 (E) Continue development and product improvement testing for user equipment. (E) \$3,540 (E) \$1,364 (E) \$1,314 (E) \$16,314 (E) \$16,314 (E) \$16,314 (E) \$16,314 (E) \$16,314 (E) \$16,314 (E) \$16,319 (E) \$193 (E) \$100 <l< th=""><th>on studies. It development testing for aircraft integrations. It development testing for aircraft integrations. It development testing for 5-channel GPS airborne receiver. Iver product improvement studies. In and product improvement testing for user equipment. It Advanced Concept Technology Demonstration (ACTD). In Threat Demonstration. Availability Anti-Spoof Module (SAASM) development. In studies. It development testing for aircraft integrations. It development testing for aircraft integrations. It development testing for user equipment.</th><th>sting for air k upgrade for rovement st improvemen improvemen ncept Techn stration. i-Spoof Moisting for air sting for air c upgrade foi improvemen improvemen</th><th>craft integra or 5-channel udies. nt testing for ology Demo dule (SAASI dule (raft integrat r 5-channel (r</th><th>tions. GPS airborn user equipi instration (A M) developr dions. GPS airborn user equipin</th><th>nent. CTD). nent. e receiver.</th><th></th><th></th><th></th><th></th><th></th></l<>	on studies. It development testing for aircraft integrations. It development testing for aircraft integrations. It development testing for 5-channel GPS airborne receiver. Iver product improvement studies. In and product improvement testing for user equipment. It Advanced Concept Technology Demonstration (ACTD). In Threat Demonstration. Availability Anti-Spoof Module (SAASM) development. In studies. It development testing for aircraft integrations. It development testing for aircraft integrations. It development testing for user equipment.	sting for air k upgrade for rovement st improvemen improvemen ncept Techn stration. i-Spoof Moisting for air sting for air c upgrade foi improvemen improvemen	craft integra or 5-channel udies. nt testing for ology Demo dule (SAASI dule (raft integrat r 5-channel (r	tions. GPS airborn user equipi instration (A M) developr dions. GPS airborn user equipin	nent. CTD). nent. e receiver.					
Project 3028			Page 1 of 7 Pages	Pages			Exhibit	Exhibit R-2 (PF 0305164F)	305164F)	
				G				7 1 1 7	000 104F /	

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RD	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	_
BUDGET ACTIVITY 7 - Operational Sy	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq)		РКОЈЕСТ 3028
711) \$1.700	Continue support contracts	(chace)		
333	Continue Support Sontances. Continue SAASM development.			
- (U) \$11,034 - (U) \$29,810	Investigate GPS signal prevention/protection develo Total	Investigate GPS signal prevention/protection development options consistent with GPS NAVWAR program. Total	Ë.	
(U) FY 1998 (\$ in Thousands):	Thousands):			
008\$ (n) - (11) =	Continue to support development testing for aircraft integrations.	egrations.		
	Continue development and product improvement testing for user equipment	g for user equipment.		
- (U) \$260 - (T) \$1 854	Complete ACTD development.			
	Continue support contracts. Continue in-house support.			
	Continue SAASM development.			
- (U) \$17,625 - (U) \$15,200	Continue investigation of GPS signal prevention/protection development options consistent with GPS NAVWAR program. Begin development of advanced receivers	tion development options consistent with GPS NAVW	/AR program.	
	Total			<u> </u>
(U) FY 1999 (\$ in Thousands):	[housands]:			
- (U) \$731	Continue to support development testing for aircraft integrations.	egrations.		
	Continue developing soutware plock upgrade for 3-manner Or's alroome receiver. Continue development and product improvement testing for user equipment.	met Gra aubonne receiver. g for user equipment.		
	Continue support contracts.	•		
- (U) \$2,727 - (II) \$620	Continue in-house support.			
	Continue SAASSM development. Continue investigation of GPS signal prevention/protection development options consistent with GPS NAVWAR program.	tion development options consistent with GPS NAVW	/AR program.	
	Continue development of advanced receivers.	•)	
	Begin development of advanced antenna/antenna electronics.	onics.		
- (U) \$68,590	Total			
Project 3028	Pas	Page 2 of 7 Pages Exh	Exhibit R-2 (PE 0305164F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION	SHEET	(R-2 E	xhibit)		DATE	1	Fohmom, 1007
BUDGET ACTIVITY 7 - Operational System Development	8	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	ND TITLE Navsta	ar Globa	I Pos Sy	/s (User	Eq)	3028
(U) B. Program Change Summary (\$ in Thousands) FY 1996 FY 1997 FY 1998 FY 1998 FY 1999 FY 1999 </td <td>FY 1996 16,460 17,371 -345 -354 -39 -319 16,314</td> <td>EY 1997 32,450 31,250 -734 -706 29,810</td> <td>EY 1998 24,599 21,701 46,300</td> <td>99 999 00 for Advan</td> <td>24,639 24,639 43,951 68,590 ced Concep</td> <td>r Technolog</td> <td>y Demonstra</td> <td>tion (ACTD)</td>	FY 1996 16,460 17,371 -345 -354 -39 -319 16,314	EY 1997 32,450 31,250 -734 -706 29,810	EY 1998 24,599 21,701 46,300	99 999 00 for Advan	24,639 24,639 43,951 68,590 ced Concep	r Technolog	y Demonstra	tion (ACTD)
(U) Operations and Maintenance (U) Operations and Maintenance (U) Aircraft Procurement (U) Other Procurement (BA 3/6) (U) OSD RDT&E (ACTD Funding: PE 63750D) (EY 1996 FY 1997 843 843 843 843 844 84500)	FY 1998 1,313 44,318 3,152 3,900	FY 1999 1,976 45,624 4,102 300	FY 2000 2,394 39,998 3,985	EX 2001 2,579 61,139 4,028	FY 2002 2,644 111,235 4,493	FY 2003 2,701 146,433 4,576	To Compl Cont Cont Cont	Total Cost Cont Cont Cont
Kelated RDT&E: (U) PE #305165F, NAVSTAR GPS (Space/Grd Segments) (U) PE #604480F, GPS Block IIF (U) PE#305176F, Combat Survivor/Evader Locator								
(U) D. Schedule Profile Project 3028	Page 3	Page 3 of 7 Pages			3	Exhibit R-2	Exhibit R-2 (PE 0305164F)	4F)
	•	(

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	1000
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305164F Navstar Globa	ο πιτε PRO: Navstar Global Pos Svs (User Eα) 302	y 1997 PROJECT 3028
	(Space)	(b_ ,) - (- , - , -	
FY 1996	-	8661 X	66
ז	3 4 I	2 3 4 1 2	3 4
(U) Brassboard Delivery	,		
(U) Anti-Jam Development (MCM)	*		
(U) Integration Complete	×		
(U) Testing Complete	< ×		
(U) F-16 Study Complete	ŧ	,	
(U) SAASM			
(U) Multi-chip Module (MCM) Test	×		
(U) HW Development Test Start			
	Þ		
2	*		
(U) Protection Technology Develop	: ×		
(U) MAGRU/3AU (Receiver Upgrades)			
(U) SRD/System Specs x			
(U) Design & Build	×		
Prototype/GRAMS	•		
(U) PRDA Studies			
(U) Start / Complete	×		
	•		
(U) Start / Complete	×		
	<		
(U) Start		÷	
(U) Completion (Sep 00)		×	
(U) NAVWAR Production			
(U) Start (Oct 01)			
(U) Advanced antenna/electronics begin		>	
		<	
Project 3028	Page 4 of 7 Pages	Exhibit R-2 (PE 0305164F)	<u>(i</u>

BUDGET ACTIVITY		COST BREAKDOWN (R-3)	KDOWN (R		DAIE February 1997
/ - Operational System Development	93((Sr	PE NUMBER AND TITLE 0305164F Navs (Space)	LE vstar Globa	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	er Eq) 3028
(U) A. Project Cost Breakdown (S in Thousands)					
H	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Integration Studies	452	200			
(U) Selected Availability Anti-spoofing Module (SAASM)	8/9 4.300	869 6.720	800	731	
Advanced Concept Technology Demonstrati	3,640	5,070	260	2	
(U) Software Upgrade	235	193	200	200	
	639 322	700	1 100	4 570	
	3,743	1,700	1,854	1.910	
(U) In-House Support	1,364	3,304	2,761	2,727	
	740			`	
(U) Signal Denial /Protection (U) Advanced Receivers		11,054	17,625	25,703	
			13,200	4 000	
(U) Total	16,314	29,810	46,300	68,590	
(U) Advanced Antenna/Antenna Electronics (U) Total	16,314	29,810	15,200 46,300	28,129 4,000 68,590	

1671

RDT	RDT&E PROGRAM EL	RAM EL	-EMENT/PROJECT	PROJEC	T COST E	3REAKD	COST BREAKDOWN (R-3)	3)	DATE F	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	System De	evelopme	ıt		PE NUMBER AN 0305164F (Space)		D TITLE Navstar Global Pos Sys (User Eq)	Pos Sys (User Eq)		РКОЈЕСТ 3028
(U) B. Budget Acquisition History and Plannin	uisition Histor	v and Planni	ng Information (\$ in Thousands)	ı (S in Thou	(ands)						
Performing Organizations:	zations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
<u>Activity</u>			200	3	1 1 1 2 200	1230	1661 1.3	111120	1.1.1999	Complete	riogiain
Product Development Organizations Rockwell FPIF/FFP/ (MAGR) CPAF	IL OFBANIZATIONS FPIF/FFP/ CPAF	Various	Cont	Cont	t 19,058	235	193	200	200	Cont	Cont
DOE Sandia	MIPR*	Feb 96	Cont	Cont	t 1,185	2,050	930	3,200	1,000	Cont	Cont
NAWC (SAASM)	MIPR*	Various	5,360	5,360) 930	2,250	2,180	0	0	0	5,360
General Dynamics	Time and Materials	Jan 96	1,810	1,810	1,358	452	0	0	0	0	1,810
00-ALC	Project Order	n/a	327	327	7 327	0	0	0	0	0	327
(r-10 staty) Various (ACTD)	Various	Various	9,145	9,145	5 175	3,640	5,070	260	0	0	9,145
Various (Destect)	Various	Various	Cont	Cont	t 0	0	11,054	17,625	28,129	Cont	Cont
(rieventriolect) Various (Adv Receivers)	Various	Various	71,303	71,303	3 0	0	0	15,200	25,703	28,400	69,303
(Adv. Antenna/FIC)	Various	Various	6,000	6,000	0 (0	0	0	4,000	2,000	6,000
Miscellaneous	Various	Various	Cont	Cont	t 13,750	2,257	4,679	4,100	351	Cont	Cont
Support and Management Organizations Overlook Sys C/CPFF De (DUSD/Space)	ment Organizati C/CPFF	ions Dec 95	Cont	Cont	t 9,276	1,200	1,300	1,400	1,400	Cont	Cont
Project 3028					Page 6 of 7 Pages	ses		Exi	Exhibit R-3 (PE 0305164F)	0305164F)	
					0271						

RD	RDT&E PROGRAM E		-EMENT/	-EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKD	OWN (R-	(3)	DATE	Fehruary 1997	266
вирсет Астилту 7 - Operational System Development	al System D	evelopme	nt		PE NUMBER 0305162 (Space)	PE NUMBER AND TITLE 0305164F Navst (Space)	PE NUMBER AND TITLE 0305164F Navstar Global Pos Sys (User Eq) (Space)	Pos Sys ((User Eq)	(m)	РРВОЈЕСТ 3028
Contractor or	Contract										
Government	Method/Type	Award or	Performing	Project	Total						
Performing	or Funding	Obligation	Activity	Office	Prior to	Budget	Budget	Budget	Budget	Budget to	Total
Activity	Vehicle	Date .	EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Aerospace Corp (Technical Supt)	CPFF	Various	Cont	Cont	0	1,200	400	454	210	Cont	Cont
SMC/FMB	Various	Varions	Cont	Cont	1.684	0	2.550	2,575	2 536	Cont	Cont
(Shared Prg Cost)					•	•			2,7,7		COIII
PRC	Time and	Dec 95	Cont	Cont	0	714	0	0	C	Cont	Cont
(Technical Supt)	Materials						1	•	•		1100
Miscellaneous	Various	Various	Cont	Cont	4,774	1,994	754	186	161	Cont	Cont
* MIPR - Military Inter-departmental Purchase Request	Inter-departmenta	d Purchase Re	equest			•					
Test and Evaluation Organizations	n Organizations										
46th TG	Project Order	Dec 95	Cont	Cont	31,665	322	200	500	1.070	Cont	Cont
(SAASM/Test)									e e e e e e e e e e e e e e e e e e e		
46th TG	Project Order	Various	5,700	5,700	0	0	200	009	3,500	1.400	5.700
(Prevent/Protect)										î	
(I) B. Budget Acquisition History and Planni	difficition History	, and Plannir	na Information Continued (@ in Thomas J.)	Continued (®	in Thomas	,					
Government Furnished Property: (U) Not Applicable.	ished Property:				THOMSON THOMSON	a					
4	•										
Subtotal Product Development	evelopment				36,783	10,884	24,106	40,585	59,383	239,722	411,463
Subtotal Support and Management	id Management				15,734	5,108	5,004	4,615	4,637	111,133	146,231
Subtotal 15st allu E	valuation				31,665	322	200	1,100	4,570	14,395	52,752
Total Project					84,182	16,314	29,810	46,300	68.590	365.250	610,447
											•
Project 3028				P_{ℓ}	Page 7 of 7 Pages	sə		Exh	Exhibit R-3 (PE 0305164F)	0305164F)	

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PE NUMBER: 0305165F PE TITLE: NAVSTAR GPS (Space/Grd Segments) (Space)

RDT	RDT&E BUDGET ITEM JI	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	IS NOIL	JEET (R	2.2 Evhi	Pi#)		DATE		
BUDGET ACTIVITY				N Ha	DE NIMBER AND TITLE	TITIE	(312)		T.B.	February 1997	997
7 - Operational System Development	tem Developmen			030 (Sp	0305165F N (Space)	0305165F NAVSTAR GPS (Space/Grd Segments)	GPS (Sp	pace/Grd	Segmen		РРВОЈЕСТ 3030
COST (\$)	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3030 NAVSTAR GPS (Space/Ground)	e/Ground)	25,257	40,442	26,685	21,580	11,376	9,336	9,517	9,729	867,485	1,154,905
Quantity of RDT&E Articles	icles	0	0	0	0	0	0	0	0	0	0
 (U) A. Mission Description and Budget Item Justification This program element funds Research and Development This includes: satellite development (except Block IIF), of the ground control segment, including sustaining engis system. As a post-Milestone 3 program, we are classified (U) Acquisition Strategy: The acquisition strategy is to con 	A. <u>Mission Description and Budget Item Justification</u> This program element funds Research and Development for the NAVSTAR Global Positioning System (GPS) space and control segments of the overall GPS program. This includes: satellite development (except Block IIF), procurement, and deployment; training simulators; Mission Operation Support Center (MOSC); and operation of the ground control segment, including sustaining engineering, upgrades to the space and ground segments, and R&D efforts to support deployment of the entire GPS system. As a post-Milestone 3 program, we are classified as Budget Activity 7, Operational Systems Development. Acquisition Strategy: The acquisition strategy is to competitively procure Block IIR satellites and associated supporting services.	Pustification Pevelopment for the NAVSTAR Global Positioning System (GPS) space and control segments of the overall GPS program. Block IIF), procurement, and deployment, training simulators; Mission Operation Support Center (MOSC); and operation staining engineering, upgrades to the space and ground segments, and R&D efforts to support deployment of the entire GPS are classified as Budget Activity 7, Operational Systems Development. Egy is to competitively procure Block IIR satellites and associated supporting services.	the NAVS7 curement, a ring, upgrad Budget Aci	FAR Global and deploymers to the spation fivity 7, Operativity 7,	Positioning ent; training ace and groun rational Syson Readellites (R. satellites	System (GPs simulators; I do segments tems Develo	space and Mission Ope , and R&D e pment.	control segration Supportions to supportions to supportions to supportions as services.	nents of the ort Center (A port deployi	overall GPS MOSC); and ment of the	program. operation entire GPS
(U) FY 1996 (\$ in Thousands) - (U) \$2,562 Began - (U) \$2,000 Develo - (U) \$4,710 Contin - (U) \$1,343 Contin - (U) \$1,343 Contin - (U) \$1,4132 Contin Archite - (U) \$510 Reprog - (U) \$55257 Total	development pped data stor ued system e ued GPS Joir ued Operatio ectural Imple grammed to h	of Training Simulator age and retrieval systen ngineering including cott Program Office supp nal Control System (Of mentation, and Block I igher priority program.	nulator. Il system so tding config es support. tem (OCS) c slock IIR fu ogram.	ftware requi juration man consolidated ill functional	red for launc lagement. contract for lity.	ch and on-orl	oit operation	is. port Enviror	ıment (COSI	E), ocs	
(U) FY 1997 (\$ in Thousands) - (U) \$4,824 Contin - (U) \$3,300 Contin - (U) \$1,424 Contin - (U) \$16,634 Contin - (U) \$3,760 Investig - (U) \$3,760 Contin - (U) \$3,760 Contin - (U) \$40,442 Total	ue system en Le developm Le GPS Joint Le OCS Cons gate space/co Le Sensor to	gineering including configuration maent of training simulator. Program Office Support. solidated Contract for COSE, OCS Arantrol segment solutions as part of GP Shooter accuracy improvement effort	ling configu imulator. : Support. ct for COSE plutions as p	ration mana, 3, OCS Arch aart of GPS } eent effort	gement. uiectural Imp Navigation V	olementation Varfare (NA)	, and Block VWAR) pro	IIR Full Fun gram.	octionality.		
Project 3030				Page 1 of 5 Pages	7 Pages			Exhibit	Exhibit R-2 (PE 0305165F)	305165F)	

RDT	RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	it)	DATE	1007
BUDGET ACTIVITY 7 - Operational System Developmen	tem Development		PE NUMBER AND TITLE 0305165F NAV	D TITLE NAVSTAR	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	<u> </u>	3030
(U) FY 1998 (\$ in Thousands) - (U) \$3,170 Contin - (U) \$2,000 Contin - (U) \$13,936 Contin - (U) \$6,262 Contin - (U) \$1,317 Contin - (U) \$1,317 Contin	ue system eng ue developme: ue OCS Consc ue Sensor to S ue GPS Joint I	ineering including configuration management. It of training simulator. Idated Contract for COSE, OCS Architectura hooter accuracy improvement effort. Program Office Support.	management. S Architectural I	mplementation,	and Block IIR Full	Functionality.	
(U) FY 1999 (\$ in Thousands) - (U) \$2,901 Contin - (U) \$630 Comple - (U) \$11,904 Contin - (U) \$2,625 Comple - (U) \$3,520 Contin - (U) \$21,580 Total	Continue system engineering including configuration management. Complete development of training simulator. Continue OCS Consolidated Contract for COSE, OCS Architectural Implementation, and Block IIR Full Functionality. Complete Sensor to Shooter accuracy improvement effort. Continue GPS Joint Program Office Support. Total	ing configuration imulator. x for COSE, OCS y improvement et Support.	management. S Architectural I ffort.	mplementation,	and Block IIR Full	Functionality.	
 (U) B. Program Change Summary (\$\scrim*\$) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value 	 (U) B. Program Change Summary (\$\mathbb{S}\$ in Thousands) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value 	FY 1996 28,023 25,921	FY 1997 42,243 42,243	FY 1998 31,684	<u>FY 1999</u> 24,198		
 a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprod. Below Threshold Reprogramming e. Rescision (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget 	Cong Gen Reductions SBIR Omnibus or Other Above Threshold Reprogram Below Threshold Reprogramming Rescision justments to Budget Years Since FY97 PB rrent Budget Submit/President's Budget	- 507 - 72 392 - 477 25,257	-899	-4,999 26,685	-2,618 21,580		
(U) Change Summary Explanation: Project 3030	anation:	Page	Page 2 of 5 Pages		Exh	Exhibit R-2 (PE 0305165F)	

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RDT&E BUDGET I	TEM	SOC	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	HEE	T (R-	2 Exhil	bit)		DATE	February 1997	1997	
BUDGET ACTIVITY 7 - Operational System Development	Ħ			93 (\$	е и имвек 030516 (Space)	PE NUMBER AND TITLE 0305165F NAV (Space)	⊓E √STAR	GPS (S	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	d Segm	ents)	РРОЈЕСТ 3030	5
Funding: FY98 (-4,999) and FY99 (-2,618 pay inflation. Schedule: No change. Technical: No change.	8) adjus	tments	reflect a re	alignment i	rom FY	98 to F	799 to pay	for higher j	riority Air	Force requ	8) adjustments reflect a realignment from FY98 to FY99 to pay for higher priority Air Force requirements as well as non-	well as no	-uo
(U) C. Other Program Funding Summary (S in	in Thousands)	ands)									Ę		Total
(U) Operations and Maintenance(U) Missile Procurement(U) Other Procurement	FY 15.	FY 1996 18,696 154,155 6,806	EY 1997 22,599 197,944 9,737	FY 1998 22,003 163,837 7,596	ш;	FY 1999 21,298 174,948 4,454	EY 2000 22,803 231,104 557	FY 2001 25,876 199,412 689	FY 2002 26,611 140,879 829	FY 2003 27,216 140,648 901	380,0 3,453,7 64,1	68 6,98 122	Cost 681,456 988,900 122,994
Related RDT&E: (U) PE #0305164F, NAVSTAR GPS (User Equipment) (U) PE #0101221N, Fleet Ballistic Missile System (U) PE #0301357F and 0305913F (formerly 0102433F), Nuclear Detonation Detection System (NDS) (U) PE #0305119F Space Boosters, funds launch services (Delta II) (U) PE #0604480F, GPS Block IIF	£ ~												
(U) D. Schedule Profile		FY 1996	96		FY	FY 1997		F	FY 1998		FY 1999	666	
		2			7	3	4	•	3			3	4
(U) Continue Block IIR software development(U) Delivery of Block IIR software to AFSPC	×	×	×	×	×	×	×	× × ×	×	×	× × ×		
(U) Continue Joint Program Office Support	×	×	×		×	×	×	× ;	×	× ;	× ;	×	×
(U) Development of Training Simulator (U) Investigate GPS NAVWAR system mods		×			××	××	× ×		×				
(U) Continue OCS Consolidated Contract	×	×	×	×	×	×	×	×	×	×	×	×	×
Project 3030				Page 3 of 5 Pages	of 5 Pag	es		į	Exhil	oit R-2 (P	Exhibit R-2 (PE 0305165F)	E)	
				1677	77								

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RD1	RDT&E PROGRAM EI	SRAM EL		EMENT/PROJECT	COSTE	REAKD	COST BREAKDOWN (R-3)	3)	DATE Fe	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	l System D	evelopme	nt		PE NUMBER 030516{ (Space)	PE NUMBER AND TITLE 0305165F NAVS (Space)	PE NUMBER AND TITLE 0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	(Space/G	rd Segme		РКОЈЕСТ 3030
(U) A. Project Cost Breakdown (\$ in Thousands)	t Breakdown (\$ in Thousan	ds)								
				FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Block IIR Data Storage/Retrieval System Development (U) Operational Control Segment (OCS) Development/Sustainment	ock IIR Data Storage/Retriev orational Control Segment (Develonment/Sustainment	'al System De' OCS)	velopment	2,000 14,132		16,634	13,936	11,904	4		
(U) Training Simulator Development	ator Developme	nt		2,562		3,300	2,000	630	0		
	Support			1,34		10,500 1,424	6,262	3,520	n 0		
(U) System Engineering including Configuration	ring including	Configuration	Management	4,710		4,824	3,170	2,90	_		
(U) GPS NAVWAR system mods investigation (U) Reprogrammed out since database locked	system mods i out since datab	nvestigation ase locked		510		3,760					
(U) Total				25,257		40,442	26,685	21,580	0		
(U) B. Budget Acquisition History and Plann	quisition Histo	ry and Planni	ing Informatio	ing Information (\$ in Thousands)	(spu						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Lockheed-Martin CPAF Lockheed-Martin CPAF/FFP GPS NAVWAR Multiple	nt Organizations CPAF CPAF/FFP Multiple	Jun 90 Jul 95 Multiple	119,253 100,000	119,253	5,061	2,515	600 29,834 3,760	22,198	15,159	13,569	119,338 100,000 3,760
Support and Management Organizations	ment Organizat	lions									
Project 3030				P.	Page 4 of 5 Pages	ges		Ext	Exhibit R-3 (PE 0305165F)	0305165F)	
		!			1679						

RD	RDT&E PROGRAM EI	3RAM EL	1 _ 1	EMENT/PROJECT	COST B	REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	ıl System D	evelopme	ŧ		РЕ NUMBER 030516{ (Space)	PE NUMBER AND TITLE 0305165F NAVS (Space)	0305165F NAVSTAR GPS (Space/Grd Segments) (Space)	(Space/G	rd Segme	ints)	9030
Contractor or Government Performing Activity System Funineering	Contract Method/Type or Funding <u>Vehicle</u> Various	Award or Obligation <u>Date</u> Various	Performing Activity <u>EAC</u> n/a	Project Office EAC n/a	Total Prior to <u>FY 1996</u> 8,199	Budget FY 1996 6,710	Budget FY 1997 4,824	Budget F <u>Y 1998</u> 3,170	Budget FY 1999 2,901	Budget to Complete Cont	Total <u>Program</u> Cont
Mission Support "Classified/other activity"	Various Various	n/a n/a	n/a n/a	n/a n/a	4,016 n/a	1,343	1,424	1,317	3,520	Cont	Cont 510
<u>Test and Evaluation Organizations</u> Not Applicable.	Organizations										
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Total Project	velopment d Management valuation				121,283 12,215 0 133,498	16,694 8,563 0 25,257	34,194 6,248 0 40,442	22,198 4,487 0 26,685	15,159 6,421 0 21,580	725,759 181,684 0 907,443	935,287 219,618 0 1,154,905
Project 3030				P_{c}	Page 5 of 5 Pages	S.		Exh	Exhibit R-3 (PE 0305165F)	0305165F)	

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PE NUMBER: 0305182F

UNCLASSIFIED

PE TITLE: Eastern Space Launch Facility (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	FION S	HEET (R	\-2 Exhi	bit)		DATE FeI	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t.		PE NI 030	PE NUMBER AND TITLE 0305182F Easte	D305182F Eastern Space Launch Facility (Space)	pace Lau	ınch Faci	lity (Spa		РRОЈЕСТ 4137
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4137 Range Standardization and Automation (RSA) Program	47,943	33,956	34,186	33,472	46,974	42,243	40,573	41,481	41,481 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

technology and are arrayed in a highly inefficient, manpower-intensive architecture. Range instrumentation reliability is deteriorating and over 40% of the components Funding for RSA design and integration for both Eastern and Western Ranges is consolidated in this Eastern Range program element to reflect the standard range being achieved without RSA. Categorized as Budget Activity 7, Operational Systems Development, because it upgrades existing operational capabilities with new systems. reconfigurable from one major operation to another in less than 4 hours versus 2-3 days, capable of being operated for 20% less than current ranges, and supportable operations, ballistic missile test and evaluation (T&E), and a variety of aeronautical and guided weapons T&E. Range assets are based on 1950s/1960s designs and through existing Air Force logistics infrastructure and standard practices. RSA is critical to the future of the spacelift ranges; performance and cost goals cannot be treating the two as a single integrated range system with an Eastern and Western segment. RSA will develop the integrated range system, using remote control and Replacement of the aging systems is a necessity. Range Standardization and Automation (RSA) will completely overhaul and modernize both the ER and the WR, developed for both ranges. A parallel sustaining improvement and modernization activity for existing range systems is separately funded with procurement funds. automation techniques to reduce the number of required operators, sites and facilities, and to produce improved responsiveness. The result will be a range system communications, command/control and other support capabilities necessary to safely and successfully conduct civil, commercial, and national security spaceliff are obsolete with no sources of support. The ranges do not provide the responsiveness and flexibility critical to affordably support the nation's spacelift needs. Two national ranges, the Eastern Range (ER) at Patrick AFB, FL, and the Western Range (WR) at Vandenberg AFB, CA, provide tracking, telemetry,

Continued RSA Phase I Contract: Complete design and begin integration of Cape Canaveral Air Station (CCAS) communications network. Awarded RSA Phase IIA Contract in Nov 95: Initiate range architecture design, including instrumentation, weather, surveillance, Western Range Operations Control Center (WROCC) systems, centralized data processing, and optical systems for both ranges. Contract will continue through 2006.	Continued ROCC Engineering Services Contract. Program support includes System Program Office, Air Logistics Center support, and Aerospace support. Total
(U) \$31,178 (U) \$9,800	(U) \$2,494 (U) \$4,471 (U) \$47,943
999	999
	1 1 1

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Project 4137

Exhibit R-2 (PE 0305182F)

		RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R-2 Exhibit) DATE FABRICAN 1997	v. 1007
≅ ►	BUDGET ACTIVITY 7 - Operation	Z Z	e Launch Facility (S	PROJECT
	(U) \$8,566 (U) \$20,453		Continue RSA Phase I Contract: Integrate and begin test of communications network. Continue RSA Phase IIA Contract: Complete range architecture design; develop weather, optical instrumentation. Control & Display hasic	. <u>ç</u>
1 1	(U) \$4,937 (U) \$33,956		increment. stics Center support, and Aerospace support.	
	(U) \$5,993 (U) \$22,393		Continue RSA Phase I Contract: Complete design and begin integration of Consolidated Telemetry Processing System (CTPS). Continue RSA Phase IIA Contract: Continue Control & Display planning and scheduling development; begin development of communications	cations
11	(U) \$5,800 (U) \$34,186	network to an Asynchronous Transfer Mode (ATM) system, including network controllers. Program support includes System Program Office, Air Logistics Center support, Aerospace Total	network to an Asynchronous Transfer Mode (ATM) system, including network controllers. Program support includes System Program Office, Air Logistics Center support, Aerospace support, and SATCOM lease. Total	
1 1	(U) <u>\$3,635</u> (U) \$21,937	Continue RSA Phase I Contra Continue RSA Phase IIA Con	ct: Finishes integration of CTPS. Completes system test and evaluation. tract: Continue Control & Display integration and test for operational turnover; continue development of network	etwork
f I	(U) \$ 7,900 (U) \$33,472	including network core Program support includes System Program Office, Air Logis Total	including network core Program support includes System Program Office, Air Logistics Center support, Aerospace support, and SATCOM lease. Total	
5,4	(U) Acquisition Strategy: The RSA Phase I Contract	<u>strategy:</u> Contract was competitively awarded in FY 1993 to provide. Con	(U) <u>Acquisition Strategy:</u> The RSA Phase I Contract was competitively awarded in FY 1993 to provide Consolidated Instrumentation Equilities (CIE) at A attimity of A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at A attimity of the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the Consolidated Instrumentation Equilities (CIE) at the CIE (CIE) at the CIE (CIE) at the CIE (CIE) at the CIE (CIE) at the CIE (CIE) at the CIE (CIE) at the CIE (CIE) at the C	

The RSA Phase I Contract was competitively awarded in FY 1993 to provide Consolidated Instrumentation Facilities (CIF) at Antigua and Ascension, satellite communications from these sites to the Eastern Range Operations Control Center, a Central Telemetry Processing System for both ranges, and Cape Canaveral Air Station communications network upgrades. The FY 1996 RSA Phase IIA contract was competitively awarded to provide design and integration of the complete range architecture and also procure a Western Range Operations Control Center; imaging systems; communications systems; mobile metric, telemetry and command assets; surveillance systems; weather data collection and prediction systems; debris tracking, systems; planning and scheduling systems and data processing/display systems. An FY 2003 follow-on equipment contract will provide the primary telemetry receiving, metric tracking, and command systems.

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Project 4137

Exhibit R-2 (PE 0305182F)

RDT&E BUDGET ITEM JU	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE February 1997	266
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305182F Easte	D TITLE Eastern Sp	D ТІТІЕ Eastern Space Launch Facility (Space)	ility (Space)	PROJECT 4137
(U) B. Program Change Summary (\$ in Thousands)						
 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional/General b. SBIR 	FY 1996 48,279	EY 1997 35,704 35,704 -820	FY 1998 36,410	FY 1999 38,466		
c. Omnibus and other Above Thresholdd. Recisione. Below Threshold Reprogramming	-320					
(U) Adjustments to Budget Years(U) Current Budget Submit/President's Budget	47,943	33,956	-2, 224 34,186	-4,994 33,472		
(U) Change Summary Explanation: Funding: FY 1998/1999 reductions fund higher AF and DoD priorities	and DoD priorities					
Schedule: FY 1998/1999 reductions caused a rephasing of the Range Standardization and Automation (RSA) program deliveries.	ing of the Range Star	ıdardization and	Automation (RS	A) program deliveries		
Technical: RSA Phase I Contract projected overruns necessitated a restructure of the Consolidated Instrumentation Facilities (CIF) equipment at Antigua and Ascension. Will supply new radar trackers and transmitters to upgrade existing radars in place of the Unified Tracking Antenna (UTA) concept originally planned.	necessitated a restruc mitters to upgrade exi	cture of the Cons isting radars in p	olidated Instrum lace of the Unifi	entation Facilities (CI) ed Tracking Antenna (F) equipment at Antigua UTA) concept original!	and / planned.
Project 4137	Pag	Page 3 of 6 Pages		Exhib	Exhibit R-2 (PE 0305182F)	

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RDT&E BUDGET II	ET ITEM	JUSTIF	ICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	T (R-2 E	xhibit)		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	pment		-	PE NUMBER AND TITLE 0305182F Easte	AND TITLE	rn Space	D TITLE Eastern Space Launch Facility (Space)	Facility (Space)	PROJECT 4137
(U) C. Other Program Funding Summary (\$ in [FY 1] (U) Other Procurement, AF* 110, (U) MILCON, AF ** 4,		Thousands) 996 FY 1997 447 101,695	FY 1998 81,957 26,876	<u>FY 1999</u> 100,938	FY 2000 96,205	FY 2001 102,239	FY 2002 114,955	FY 2003 99,421	To <u>Complete</u> Continuing	Total Cost Continuing 30,876
(U) Related RDT&E: Not Applicable.										`
* In addition to RSA, this PE includes funds required for ongoing Eastern Range sustaining improvement and modernization (I&M) program. Western Range RSA and I&M is included in PE 35181F. Funding shown is for both PEs. ** FY 1996 and 1998 MILCON funds are in PE 35181F; FY 1996 funds are for Chemical Test and Analysis Laboratory at Vandenberg AFB, and FY 1998 funds are for Western Range Operations Control Center (WR OCC) to house WR OCC RSA systems.	udes funds re 335181F. Fu nds are in PE ns Control Ce	quired for on nding shown 35181F; FY enter (WR OC	going Easter is for both P 1996 funds a	n Range sust Es. are for Chem WR OCC R	aining impro ical Test and SA systems.	wement and Analysis L.	modernizati aboratory at	on (I&M) pr Vandenberg	ogram. Weste	n Range 1998 funds
(U) D. <u>Schedule Profile</u>		FY 1996	-	FY 1997	710		FY 1998	-	FY 1999	•
(U) RSA Phase I Prelim Design Review (U) Software Maintenance Facility Compl (U) RSA Phase IIA Contract Award (U) RSA Phase IIA System Requit Review (U) RSA Phase I Critical Design Review (U) RSA Phase I Critical Design Review (U) RSA Phase IIA Integ & Test First Del (U) RSA Phase I Developmental T&E (U) RSA Phase I SATCOM Installation (U) RSA Phase I SATCOM Installation (U) WR Ops Control Cntr MILCON BOD (U) WR A Phase IIA Integ & Test 2nd Del (U) RSA Phase I Operational T&E (U) RSA Phase I System Turnover	· ×××		· ×	××		×		· · ××		
Project 4137			Pag	Page 4 of 6 Pages	Sa			xhibit R-2	Exhibit R-2 (PE 0305182F)	
				1684						

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RI	RDT&E PROGRAM E	GRAM E	LEMENT	/PROJEC	T COST	F BREAK	LEMENT/PROJECT COST BREAKDOWN (R-3)	7-3)	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operation	зирдет АСТКИТҮ 7 - Operational System Development	evelopme	ınt		PE NUI 0305	PE NUMBER AND TITLE 0305182F East	D TITLE Eastern Space Launch Facility (Space)	Launch	Facility (Space)	PROJECT 4137
(U) A. Project Cost Breakdown (\$ in Thousa	Cost Breakdown	(\$ in Thousa	(spu	FY	FY 1996	FY 1997	FY 1998	FY 1999	<u>666</u>		
(U) RSA Phase I Contract(U) RSA Phase IIA Contract(U) ROCC Engineering Serv(U) Program Support	RSA Phase I Contract RSA Phase IIA Contract ROCC Engineering Services Program Support			31	31,178 9,800 2,494 4,471	8,566 20,453 4,937	5,993 22,393 5,800	3, 21; 7,	3,635 21,937 7,900		
(U) Total				47	47,943	33,956	34,186	33,	33,472		
(U) B. Budget Acquisition History and Plann	cquisition Histor		ing Information (\$ in Thousands)	on (S in Thou	sands)						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligat'n <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	To Complete	Total Program
Product Development Organizations Harris Corp/ C/CPAF	nent Organization: C/CPAF	s Jun 93	88,638	88,638	38,573	31,178	8,566	5,993	3,635	0	87,945
(RSA Phase I) Lockheed Martin	C/CPAF	Nov 95	165,000	165,000	0	9,800	20,453	22,393	21,937	88,082	162,665
(RSA Phase IIA) Harris Corp. (ROCC Eng'r	SS/CPAF	Apr 94	23,852	23,852	21,358	2,494	0	0	0	0	23,852
Services) Various (Other RSA)	Various	Various	N/A	N/A	2,913	0	0	0	0	0	2,913
 Project 4137					Dans S. of & Dans	Q		L	1. 1. 1.	7 0 0 1	
					o lo c agn i	rakes			SANIOIT K-3 (F	EXIIIDIT K-3 (PE 0305182F)	

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RDT&E	RDT&E PROGRAM EL	AM EL		EMENT/PROJECT		BREAKI	COST BREAKDOWN (R-3)	(5-3)	DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Developme	stem Deve		 		PE NUME 03051	PE NUMBER AND TITLE 0305182F East	ern Space	PE NUMBER AND TITLE 0305182F Eastern Space Launch Facility (Space)	Facility (S	pace)	PROJECT 4137
Contractor or Contract Government Method/Ty Performing or Funding Activity Vehicle	Type ng	Award or Obligat'n <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	To <u>Complete</u>	Total <u>Program</u>
Support and Management Organizations Mission Support Various Va	Organizations us Va	ons Various	N/A	N/A	5,550	4,471	4,937	5,800	7,900	Cont.	Cont.
Test and Evaluation Organizations TBD TBD		1998	N/A	N/A	0	0	0	0	0	TBD	TBD
Government Furnished Property:		RSA Phase l		IA contract awarded Nov 95; process underway to identify GFE	; process und	lerway to iden	tify GFE				
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ment lagement ion				62,844 5,550 N/A	43,472 4,471 N/A	29,019 4,937 N/A	28,386 5,800 N/A	25,572 7,900 N/A	88,082 Cont. N/A	277,375 Cont N/A
Total Project					68,394	47,943	33,956	34,186	33,472	Cont.	Cont
Project 4137					Page 6 of 6 Pages	ages		Ш	xhibit R-3 (F	Exhibit R-3 (PE 0305182F)	(C
				İ	1686						

PE NUMBER: 0305906F

UNCLASSIFIED

PE TITLE: NCMC-TW/AA Systems

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fe	Fehrijary 1997	797
BUDGET ACTIVITY 7 - Operational System Development	1		PE NI 030	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	CMC-TW	IIAA Syst	tems			2
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	56,712	29,466	7,362	5,036	4,256	3,939	3,967	3,936	Continuing	Continuing
3880 CMU	37,893	16,010	603	120	0	0	0	0	0	1,297,524
3881 Integrated TW//AA	11,074	8,800	5,132	3,871	4,256	3,939	3,967	3,936	Continuing	Continuing
4409 Legacy interfaces	7,745	4,656	1,627	1,045	0	0	0	0	0	47,516
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

Computers (C4) in support of the Integrated Tactical Warning/Attack Assessment (Integrated TW/AA) system. This program incrementally upgrades and replaces the American Aerospace Defense Command (NORAD)/CINC US Space Command in providing the National Command Authorities, USSTRATCOM and other forward This program element funds the replacement systems for the Cheyenne Mountain Complex (CMC) which provides the Command, Control, Communications and current operational systems without loss of attack warning capability during the phased transition. The CMC supports the Commander-in-Chief (CINC) North users with early warning (missile, air, and space) and assessment of attack on North America or its allies.

other Integrated TW/AA systems and program upgrades and supports the development of the Cheyenne Mountain Training System (CMTS). The third project, Legacy This program element has three related projects: The first project, Cheyenne Mountain Upgrade (CMU), is six acquisitions that are supported by both the second and third project. The second project, Integrated TW/AA System Engineering, provides interface analysis and disconnect resolution between CMU and over twenty Interfaces, provides software development upgrades to post-IOC CMU subsystems and direct mission software support to meet operational needs.

This program element is in Budget Activity 7 Operational System Development because it involves post-Milestone III efforts, and the projects in this program element support development acquisition programs or upgrades.

(U) Acquisition Strategy:

The CMU program was restructured in FY94 to implement an acquisition strategy that tests and delivers four phases of user capability. Phase 1 implemented the complete missile warning capability in Sep 95. Phase 2 operational acceptance occurred in Aug 96. Phases 3/4 will test and implement CMU capabilities in annual blocks (with O&M version releases) and incorporate upgrades and changes to meet evolving user requirements.

Page 1 of 16 Pages

Exhibit R-2 (PE 0305906F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEE	T (R-2 Exh	ibit)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	DE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	V/AA Syste	sms	3	COL CHARLE	
(U) B. Program Change Summary (\$ in Thousands) FY 1996 (U) Previous President's Budget (U) Appropriated Value	FY 1997 31,692 31,692	FY 1998 7,623	FY 1999 5,291	61 -			
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/98 BES 56,712	-1446 -780 29,466	-261 7,362	-255 5,036				
(U) Change Summary Explanation: Funding: FY96 reductions funded higher priority Air Force and DoD requirements. FY97 reductions are Congressional actions (Sec 8136, 8138 and 8037) and Small Business Innovative Research (SBIR).	requirements. F	Y97 reductions ar	e Congression	al actions (Sec 8136, 813	38 and 8037) aı	рı
Schedule: Phase 1 (complete missile warning) was implemented in Sep 1995, two months ahead of schedule. Acquisition approach tests and implements Phase 2 (survivable communications) with operational acceptance which occurred in Aug 1996. Phases 3 and 4 (development of subsystem capability and software upgrades) are tied to annual O&M version releases.	ep 1995, two mor rred in Aug 1996	iths ahead of sche . Phases 3 and 4	dule. Acquisit (development c	ion approa of subsyste	ich tests and ir m capability a	mplements Pha and software	se 2
Technical: No change.							•
(U) C. Other Program Funding Summary (\$ in Thousands)						J	
(U) Other Procurement * 9,043 FY 1996 FY 1998 FY 1999 (U) Operations & Maintenance 91,422 85,769 99,330 94,921 Ricludes spares for CMU and CINC Mobile Alternate Headquarters (CMAH) and modifications.	FY 1998 FY 18,969 12 99,330 94 13 and modificatic	FY 1999 FY 2000 12,520 4,773 94,929 87,230 cations.	FY 2001 13,304 96,019	FY 2002 12,343 92,803	FY 2003 11,333 98,564	To Cont Cont	Total Cost Cont
Related RDT&E: (U) #604441F, Space-Based Infrared System (U) #305910F, Spacetrack (U) #305911F, Defense Support Program							

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Exhibit R-2 (PE 0305906F)

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (I	R-2 Exh	ibit)		DATE Fet	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	NCMC-T	NIAA Sy	stems			
(U) D. <u>Schedule Profile</u>	FY 1996	4	FY 1997 2 3	4 1	FY 1998 2 3	4 1	FY 1999 2 3	4
 (U) CMU Phase 1 Operational Acceptance (U) Missile Warning IOT&E (U) CMU Phase 2 Operational Acceptance (U) Air Warning Mission Operational Acceptance (U) CMU Phase 3 Operational Acceptance (U) Space Control Mission Operational Acceptance (U) CMU Phase 4 Operational Acceptance (U) CMU Integrated Mission IOT&E 		× ×	×	×	* *		×	
	Page	Page 3 of 16 Pages			Exhib	Exhibit R-2 (PE 0305906F)	305906F)	

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	RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE E.	Fobriton, 4007	
BUDGET ACTIVITY 7 - Operation	nal System Developme	ļ t		PE NI 030	PE NUMBER AND TITLE 0305906F NCM	TITLE ICMC-TV	PENUMBER AND TITLE 0305906F NCMC-TW/AA Systems	tems			PROJECT 3880
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3880 CMU		37,893	16,010	603	120	O	0	0	0		1,297,524
(U) A. Mission The CMU p Integrated T communicat processing s Center at Ch missile warn	The CMU program must meet Joint Chiefs of Staff (JCS) requirements to provide the National Command Authorities with timely, reliable, and unambiguous Integrated TW/AA data for force survival or retaliatory decisions in the face of air, space, or ballistic missile threats. The program will provide: 1) survivable communications access for missile attack warning; 2) integrated warning of ballistic missile, atmospheric, and space threats; 3) standard user displays and warning processing systems at selected command centers; 4) an austere alternate facility capable of early/trans-attack warning and peacetime backup to the Missile Warning Center at Cheyenne Mountain. The CMU program implements an acquisition strategy that tests and delivers four phases of user capability. Phase 1 implemented the missile warning capability in Sept 1995. Phases 2/3/4 will test and implement CMU capabilities in annual blocks completing all planned capabilities by Aug 1998, with CMU Integrated Mission IOT&E completed by Mar 1999.	ustification f Staff (JCS) requiretaliatory decision retaliatory decision rning; 2) integrat ters; 4) an auster ogram implements ises 2/3/4 will test leted by Mar 1999	quirements isions in the grated warninter alternatents an acquest and imply 1999.	to provide th face of air, s ng of ballisti e facility cap isition strate lement CMU	le National (pace, or bal c missile, at bable of earl gy that tests capabilities	Command A listic missile mospheric, sy/trans-attac and delivers in annual b	uthorities wi threats. The and space thr k warning ar four phases locks comple	th timely, reprogram weats; 3) stailed peacetime of user caps.	liable, and u ill provide: ndard user d backup to t tbility. Phas	Ustification I Staff (JCS) requirements to provide the National Command Authorities with timely, reliable, and unambiguous retaliatory decisions in the face of air, space, or ballistic missile threats. The program will provide: 1) survivable ruining; 2) integrated warning of ballistic missile, atmospheric, and space threats; 3) standard user displays and waters; 4) an austere alternate facility capable of early/trans-attack warning and peacetime backup to the Missile Wa ogram implements an acquisition strategy that tests and delivers four phases of user capability. Phase 1 implement uses 2/3/4 will test and implement CMU capabilities in annual blocks completing all planned capabilities by Aug 19 leted by Mar 1999.	e arning arning ited the 998,
(U) <u>FY 1996</u> - (U) \$10,175 - (U) \$2,406 - (U) - (U) \$2,724 - (U) \$11,924 - (U) \$11,664	Completed CMU Phase 2 (Au System (May 96) Completed ATAMS Phase 1 Continue CMU Phase 3 to inc Missile Warning remote from Granite Sentry (Air Warning) Initiate Phase 4 to include: SPADOC 4C version 2 interfi	ug 96); continued Surviv (May 96) clude: n APCC) at Cheyenne Mountain àce development and tes	ed Survivab Aountain nt and testin	le Secure Co	mmunicatio	ns Network	Phase 2; del	ivered SCIS	; (14)/Proces	sing and Dis	olay
- (U) \$37,893	Total										
(U) <u>FY 1997</u> - (U) \$7,733 - (U) \$7,441 - (U) \$836 - (U) \$16,010	Complete Phase 3 (Aug 97) with operational acceptance of Granite Sentry and Missile Warning remote capability Continue Phase 4, SPADOC 4C version 2 interface development with CSSR Complete Missile Warning IOT&E residuals and deliver SSCN Phase 2 (Feb 97) Total	th operationa C version 2 ii &E residuals	acceptance iterface deve and deliver	of Granite S elopment wii SSCN Phas	entry and M th CSSR e 2 (Feb 97)	lissile Warni	ing remote co	pability			
Project 3880				Page 4 of 16 Pages	6 Pages	ı		Exhibi	Exhibit R-2 (PE 0305906F)	305906F)	
				1690							

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIO	N SHEET	R-2 Exhib	it)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305906F NCM	D TITLE NCMC-TW//	DTITLE NCMC-TW/AA Systems	PROJECT 3880
(U) \$603 Complete CMU Phase 4 and Space Control Mission Operational Acceptance – (U) \$603 Total	lission Operatio	nal Acceptance			
(U) <u>FY 1999</u> - (U) \$120 Complete CMU Integrated Mission IOT&E - (U) \$120 Total					
(U) B. Program Change Summary (\$ in Thousands)					
(U) Previous President's Budget (U) Appropriated Value	FY 1996 46,947	FY 1997 21,375 21,375	FY 1998 608	FY 1999 122	
(U) Adjustments to Appropriated Value a. Cong Reductions b. SBIR c. Project Realignment d. Below Threshold Reprogramming	-2,212	-588 -780 -3,997			
e. Umnibus or Other Above Inreshold Reprogram (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	37,893	16,010	-5 603	-2 120	
(U) Change Summary Explanation:Funding: FY96 reductions funded higher priority Air Force and DoD requirements. Project Realignment reflects a transfer of \$2,212 from project 3880 to 3881. FY97 reductions are Congressional actions (Sec 8136, 8138 and 8037) and Small Business Innovative Research (SBIR).	ce and DoD req tions are Congr	quirements. Proj essional actions	ect Realignment (Sec 8136, 8138	reflects a transfer o and 8037) and Sma	f\$2,212 from project 3880 to 3881 is ll Business Innovative Research
Schedule: Phase 1 completed (missile warning) Sep 1995. Acquisition approach tests and implements Phases 2, 3 and 4 (development of subsystem capability and software upgrades) are tied to annual O&M version releases.	. Acquisition ages.	pproach tests and	l implements Pha	ses 2, 3 and 4 (deve	elopment of subsystem capability and
Technical: Includes Missile Warning remote from APCC and development of ATAMS	and developme	nt of ATAMS.			
Project 3880	Pag	Page 5 of 16 Pages		Œ	Exhibit R-2 (PE 0305906F)
		1601			

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ATION SH	EET (R-2	Exhibi	æ		DATE Febr	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	PE NUN 0305	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	E AC-TW/A	AA Syste	sme		H W	PROJECT 3880
(U) Other Procurement * (U) Other Procurement * (U) Operations & Maintenance 91,422 85,769 * Includes spares for CMU and CINC Mobile Alternate Headquarters (CMAH)	77 FY 1998 11 8,969 19 99,330 AAH).	FY 1999 E' 12,520 94,929	FY 2000 4,773 87,230	FY 2001 13,304 96,019	FY 2002 12,343 92,803	EY 2003 11,333 98,564	To Compl Cont	Total Cost Cont
(U) D. Schedule Profile	FY1996 2 3	4	FY1997 2 3	4	FY 1	FY 1998 2 3 4	-	FY 1999 2 3
 (U) CMU Phase I Operational Acceptance (U) Missile Warning IOT&E (U) CMU Phase 2 Operational Acceptance (U) Air Warning Mission Operational Acceptance (U) CMU Phase 3 Operational Acceptance (U) Space Control Mission Operational Acceptance (U) CMU Phase 4 Operational Acceptance (U) CMU Integrated Mission IOT&E 		× ×	,	× ×		× ×		×
Project 3880	Page 6 of 16 Pages	Pages			Exhibit	Exhibit R-2 (PE 0305906F))5906F)	
	1692							

RDT&E PROGRAM ELEMENT	-EMENT/PROJECT C	COST BREAKDOWN (R-3)	DOWN (R-		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305906F NCM	D ТПLE NCMC-TW/AA Systems	ystems	PROJECT 3880
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Major Contract Incremental Funding (U) Award/Performance Fee (U) Target To Ceiling/Overrun	9,296 2,363	1,780 13 645			
 (U) ECPs/Correction of Deficiencies/Incomp (U) Interoperability/Test Support (U) Pre-Operational Support/SWSC Maintenance (U) Type I Training/TDY (U) SSCN/SCIS Fallback/Secure Voice Tell Network 	2,233 2,171 314 72 442	1,389	603	120	
(U) Tech Manuals(U) Missile Warning Remote Display(U) SPO Support	11 1,302	4			
(U) MITRE (U) TEMS/SDAS/WSI/SAIC/NSR (U) Program Support (U) Other Support (U) Adjustment for BPAC misalignment	9,556 6,325 3,333 475	5,048 3,791 2,280 0			
(U) Total	37,893	16,010	603	120	
Project 3880	Page '	Page 7 of 16 Pages		Exhibit	Exhibit R-3 (PE 0305906F)

RD	RDT&E PROGRAM EL	RAM EL	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	3)	DATE	Fohr., 2007	700
BUDGET ACTIVITY 7 - Operational System Developmer	al System De	velopmer			PE NUMBE 030590	PE NUMBER AND TITLE 0305906F NCMC	PE NUMBER AND TITLE 0305906F NCMC-TWIAA Systems	ystems		ebidary	PROJECT 3880
(U) B. Budget Acquisition Performing Organizations:	Budget Acquisition History and Plannin ning Organizations:	and Plannin	g Information	g Information (\$ in Thousands)	(spu						
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Lockheed-Martin C/CPIF/AF	ent Organizations C/CPIF/AF	Oct 91	72,300	72,300	267,606	4,063	1,873			0	273,542
E-Systems St Petershurg FI.	C/FPI/AF	Aug 86	107,000	106,500	100,576	2,664	0			0	103,240
TRW, Inc	C/FPI/AF	Jun 87	172,600	172,600	211,540	2,221	0			0	213,761
GTE Needham Hots MA	C/CPIF/AF	Jan 92	16,500	16,500	236,662	1,401	300			0	238,363
Lockheed-Martin CO Springs CA	SS/CPIF/AF	Mar 93	41,300	41,300	113,602	6,111	2,733			0	122,446
DISA (Govt) Reston VA	PO	Oct 93	9,092	9,092	8,650	442	0			0	9,092
KAMAN Sciences CO Springs, CO	AF616/C	Aug 95	3,176	3,176	1,874	1,302	0	0	0	0	3,176
Support and Management Organizations MITRE SS/PR C	ement Organization SS/PR	ons Oct 95	N/A	N/A	153.941	9.556	5 048			c	160 848
TEMS Program Support	C/PR Various	Oct 95 Nov 95	N/A N/A	N/A N/A	62,311 86,136	6,325 3,808	3,791 2,265	603	120	000	72,427 92,932
Test and Evaluation Organizations N/A	Organizations										
Project 3880				Pa	Page 8 of 16 Pages	sə.		ях	ibit R-3 /PF	Exhibit R-3 (PE 0305906E)	
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RDT&E PROGRAM ELEMENT/PROJECT	r COST BREAKDOWN (R-3)	EAKDO	WN (R-3)		DATE Febr	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	ND TITLE	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	stems			PROJECT 3880
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	s in Thousands)						
Government Furnished Property: Not Applicable.							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	940,510 302,388	18,204 19,689	4,906	603	120	00	963,620 333,904
Adjustment for BPAC misalignment Total Project (See R-2 for actuals)	1,242,898	37,893	16,010	603	120	0	1,297,524
Project 3880 P.	Page 9 of 16 Pages			Exhibi	Exhibit R-3 (PE 0305906F)	5906F)	

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	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	EM JUS	TIFICAL	TION SE	EET (R	-2 Exhi	bit)		DATE	9	-
BUDGET ACTIVITY 7 - Operations	BUDGET ACTIVITY 7 - Operational System Development			PE NC 030	PE NUMBER AND TITLE 0305906F NCM	TITLE CMC-TW	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	ems		PRO 388	PROJECT
5	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
3881 Integrated TW/AA	WAA	11,074	8,800	5,132	3,871	4,256	3,939	3,967	3,936	Continuing	Continuing
(U) A. Mission D	(U) A. Mission Description and Budget Item Ju	ustification									P
This project w rigorous systen the efficient in systems and pr and changes di	This project was set up in 1989 when Air Force recognized the phased transition of CMU program into the Integrated TW/AA network could only be achieved through rigorous system-of-systems design and engineering analysis of all interfaces and relationships among the twenty-six systems of the network. This project provides for the efficient integration of CMU through interface analysis, schedule management and disconnect resolution between CMU and over twenty other Integrated TW/AA systems and program upgrades as required to support the Integrated TW/AA network's continually evolving system-of-systems (e.g., Space-Based Infrared System) and changes driven by new missions/threats.	ce recognized the phased transition of CMU program into the Integrated TW/AA network could only be achieved thro eering analysis of all interfaces and relationships among the twenty-six systems of the network. This project provides frace analysis, schedule management and disconnect resolution between CMU and over twenty other Integrated TW/A support the Integrated TW/AA network's continually evolving system-of-systems (e.g., Space-Based Infrared System)	the phased to of all interfi schedule ma tegrated TW.	ransition of (aces and rela magement ar /AA networl	CMU progra trionships an nd disconned c's continual	im into the Innong the tweet resolution Iy evolving	ntegrated TV anty-six syste between CN system-of-sy	//AA netwo ems of the n IU and over stems (e.g.,	rk could only etwork. This twenty other Space-Based	y be achieve s project pro r Integrated '	d through vides for TW/AA stem)
(U) \$5,441		ation of CM	J Phase 2 in:	stallation, ch	eck-out, test	t and assessn	nent; mainta	iin program	schedule; id	lentify, track	
(U) \$2,172	and resolve CMU disconnects TPE: Maintain CMU technical baseline; evaluate CMU performance and track to prescribed requirements; provide system engineering for	baseline; ev	aluate CMU	performano	e and track t	o prescribed	l requiremen	ts; provide	system engin	leering for	
(U) \$2,133 (U) \$1,328 (U) \$11,074	CMU Phase 2, and accomplish systems engineering studies for proposed ITW/AA system improvements. CMTS: Continue to support CMTS program Interface Control System Development Total	systems engi MTS progran lopment	neering stud 1	ies for propc	sed ITW/A.	A system im	provements.))	
(U) <u>FY 1997</u>		1		; ;	•						
(U) \$2,168		baseline; eva	luate perform	stantation, cn nance and tr	eck-our, rest ack to presc	and assessn ribed require	nent; mamta ements: pro	in program	schedule; id enoineerino	entify, track for Phase 3	
(U) \$8,800	and accomplish systems engineering studies for proposed ITW/AA system improvements. Total	ering studies	for proposec	i ITW/AA sy	/stem impro	vements.			9	101 1 mase 9,	
(U) <u>FY 1998</u> - (U) \$1,577		ation of CML	I Phase 4 ins	tallation, ch	eck-out, test	and assessm	nent; mainta	in program	schedule; id	entify, track	
- (U) \$3,555 - (U) \$5,132	and resolve disconnects within the ITW/AA system. DSM: Manages planned incremental capability modifications to NCMC-TW/AA systems. Total	the ITW/AA nental capabii	system. lity modifica	tions to NCI	MC-TW/AA	systems.					
Project 3881			1	Page 10 of 16 Pages	6 Pages			Fxhihit	Exhibit R-2 (PE 0305906E)	SOSOORE	
				1696					20 - 11 - 21	100000	7

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (R	2-2 Exhibi	E	DATE
BÜDGET ACTIVITY 7 - Onerational System Development	<u>a</u> .	PE NUMBER AND TITLE	TITLE		rebruary 1997
		USUDBUOK NCMC-IW/AA Systems	CMC-1W/A	A Systems	3881
(U) <u>FY 1999</u> - (U) \$239 SEIT: Integrated Mission IOT&E for CMU Phase 3 - (U) \$3,632 DSM: Manages planned incremental capability modifications to NCMC-TW/AA systems (U) \$3,871 Total	ase 3 modifications to	NCMC-TW/AA	systems.		
(U) B. <u>Program Change Summary (S in Thousands)</u>					
(U) Previous President's Budget (U) Appropriated Value	FY 1996 8,861	FY 1997 5,562 5,562	FY 1998 5,375	FY 1999 4,115	
(U) Adjustments to Appropriated Value a. Cong Reductions		-759			
b. Project realignment c. Omnibus or Other Above Threshold Reprogram	2,213	3,997			
 d. Below I hreshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget 	11,074	8,800	-243 5,132	-244 3,871	
 (U) Change Summary Explanation: Funding: FY96 reductions funded higher priority Air Force and DoD requirements. Project realignment reflects a transfer of \$2,212 from project 3880 (CMU) and \$1 from project 4409 (Legacy Interface) to 3881 (ITW/AA) in FY96 and \$3,997 from project 3880 to 3881 in FY97. FY97 reductions are Congressional actions (Sec 8136, 8138 and 8037). Schedule: No change. Technical: No change. 	Air Force and D. I (ITW/AA) in F	oD requirements Y96 and \$3,997	. Project realig from project 38	nment reflects a tra 180 to 3881 in FY9	nsfer of \$2,212 from project 38807. FY97 reductions are
(U) C. Other Program Funding Summary (\$ in Thousands) (U) Not Applicable.					
(U) D. <u>Schedule Profile</u> (U) Not Applicable. This is a sustaining engineering effort that supports project 3880 with no distinct milestones.	hat supports proj	ect 3880 with no	o distinct milest	ones.	
Project 3881	Page 11	Page 11 of 16 Pages		Exhit	Exhibit R-2 (PE 0305906F)

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S.	RDT&E PROGRAM EL	SRAM EI		EMENT/PROJECT	T COST	COST BREAKDOWN (R-3)	OWN (R-	(6)	DATE	Fohriism, 1997	907
BUDGET ACTIVITY 7 - Operational System Developme	al System D	evelopme	nt		PE NUMB 03059	PE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	-TW/AA	Systems		colualy	PROJECT 3881
(I) A. Project Cost Breakdown (S in Thousands)	ost Breakdown (Thousan	(9)								
	OSC DI CARALOWII	A III A III OUSAII	(sn)	FY	FY 1996 E	FY 1997	FY 1998	FY 1999	<u>6</u> 1		
(U) Major Contract Incremental Funding (U) Award/Performance Fee	t Incremental Fur	ding			0 248	00					
(U) CM1S Systems Integration (U) Interface Control System Development (U) SPO Support	s Integration ol System Devel	opment		- -	,885 ,328	0					
(U) MITRE (U) TEMS/WSI	E /WSI			4.0	4,672 2,704	4,852 3,846	3,012	2,006	∕ 2 ≪		
(U) Frogra (U) Total	(U) Program Support al			11	237 11,074	102 8,800	968	907 3,871			
(U) B. Budget Acquisition History and Plannin Performing Organizations:	quisition Histor nizations:	v and Planni	ng Informatio	g Information (\$ in Thousands)	sands)						
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Rudaet	Budget	Budget	Dudge	7	ŧ
Activity	Vehicle	Date	<u>EAC</u>	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Support and Management Organizations	cment Organizat	ions									
MITRE	CPFF CPAF	Oct 95 Oct 95	N/A N/A	N/A N/A	39,313	4,672	4,852	3,012	2,006	Cont	Cont
Program Support Prime Contractors	N/A (Various)	Nov 95	N/A	N/A	6,725 812	237	102	896	206	Cont	Cont
Project 3881				I	Page 12 of 16 Pages	ages		Ē	ibit R-3 (PE	Exhibit R-3 (PE 0305906F)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BR	EAKDO	WN (R-3		DATE Feb	February 1997	
вирбет Астииту 7 - Operational System Development	PE NUMBER AND TITLE 0305906F NCM	ND TITLE	DE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	stems		PROJE 3881	РРОЈЕСТ 3881
Product Development Organizations							
DISA MIPR Apr 96 1,328 1,328 LORAL Aerospace C/CPIF/AF Jun 95 6,390 6,390 Co Springs, CO	4,257	1,328 2,133				00	1,328
Test and Evaluation Organizations N/A							
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	in Thousands)						
Government Furnished Property: Not Applicable.							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	4,257 71,565	3,461	8,800	5,132	3,871	Cont	7,718 Cont
Total Project	75,822	11,074	8,800	5,132	3,871	Cont	Cont
Project 3881	Page 13 of 16 Pages	ss		Exhi	Exhibit R-3 (PE 0305906F)	305906F)	
	9071						

7 - Operational					,		25		1		701
OO	- Operational System Development			PE N	PE NUMBER AND TITLE 0305906F NCM	TITLE ICMC-TV	DE NUMBER AND TITLE 0305906F NCMC-TW/AA Systems	tems		PROJ	PROJECT 4409
}	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
4409 Legacy Interfaces	SE	7,745	4,656	1,627	1,045	0	0	0	0		47,516
(U) A. Mission Des The FY95 Appre element. Congre clearly account for program and for	(U) A. Mission Description and Budget Item Justification The FY95 Appropriations Conference Committee transferred \$41.5M from the O&M Critical Space Contract Operations Line to the RDT&E R-1 line in this program element. Congress realigned these funds from O&M to RDT&E to identify the costs associated with CMU software development upgrades to the CMU program. To clearly account for this funding, this project, Legacy Interfaces, was established. This project provides funding for software development upgrades to the CMU program and for direct mission software support to meet operational needs.	ification e transferre &M to RD acy Interfa to meet op	ed \$41.5M fi T&E to ider ces, was estr erational nee	rom the O&] tify the cost ablished. T?	M Critical S ₁ s associated iis project pr	pace Contra with CMU :	Istification Itee transferred \$41.5M from the O&M Critical Space Contract Operations Line to the RDT&E R-1 line in this program O&M to RDT&E to identify the costs associated with CMU software development upgrades to the CMU program. To egacy Interfaces, was established. This project provides funding for software development upgrades to the CMU or to meet operational needs.	Line to the elopment up are developi	RDT&E R-1 grades to the ment upgrad	l line in this CMU progres to the CM	program am. To U
(U) \$1,581 PP (U) \$3,176 PP (U) \$2,988 PP (U) \$7,745 T	Provide SPADOC software support/upgrades Provide Cheyenne Mountain software support/upgrades Provide Warning Systems software support/upgrades Total	ort/upgrade ware suppo ire support	es ort/upgrades 'upgrades								
(U) \$500 P P (U) \$1,344 P P P P P P P P P P P P P P P P P P	Provide SPADOC software support/upgrades Provide warning system software upgrades for space, communications, and missile warning systems at Cheyenne Mountain Provide Cheyenne Mountain complex test support to include scenario development and development network software engineering Total	pport/upgrades are upgrades fo omplex test sup	ss for space, co upport to inc	mmunicatio dude scenari	ns, and miss o developm	ile warning ent and deve	systems at C	heyenne Mo work softwa	untain re engineerin	· 80	
(U) \$1,627 Pr (U) \$1,627 Tr (U) \$1,627 Tr	Provide SPADOC software support/upgrades Total	ort/upgrade	ø								
(U) <u>FY 1999</u> (U) \$1,045 Pr (U) \$1,045 Ta	Provide SPADOC software support/upgrades Total	rt/upgrade	N								
Project 4409				Page 14 of 16 Pages	16 Pages			T AHIH	Evhikit D-2 /DE 03060065	050060	

RDT&E BUDGET		JUST	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	NOL	SHEET	(R-2 E	xhibi	(E)	Δ_	DATE	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	ment			# ö	PE NUMBER AND TITLE 0305906F NCM	AND TITLE	-TW/A	D TITLE NCMC-TW/AA Systems	- Su	2	, and	PROJECT 4409
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions	housands)		FY 1996 7,746		FY 1997 4,755 4,755 -99	<u>FY 1</u>	FY 1998 1,640	FY 1999 1,054				
 b. SBIK c. Project Realignment d. Below Threshold Reprogramming (U) Adjustment to budget years since FY97 PB (U) Current Budget Submit/President's Budget 	a ta		7,745		4,656	~	-13 1,627	1,045				
(U) Change Summary Explanation: Funding: Project realignment reflects a t Schedule: No change. Technical: No change.	s a transfer	of \$1 to Pr	oject 3881	in FY96	б. FY97 ге	ductions a	re Congre	transfer of \$1 to Project 3881 in FY96. FY97 reductions are Congressional actions (Sec 8136 and 8138).	ns (Sec 813	6 and 81.	38).	
(U) C. Other Program Funding Summary (\$ (U) Not Applicable.	(\$ in Thousands)	sands)										
(U) D. <u>Schedule Profile</u>(U) SPADOC software support/upgrades	- ×	FY 1996 2 3 x x	4 ×	- ×	FY 1997 2 3 x x	7 x 4 x	- ×	FY 1998 2 3	4 ×	- ×	FY 1999 2 3	4 ×
 (U) CMAS software support (U) Warning systems software support/upgrades (U) CMC Test Support (U) CMAS software upgrades 	×× ×	×× ×	×× ×	× × ×	× ××	* **						
Project 4409			, i	'age 15 c	Page 15 of 16 Pages	co.			Exhibit R	-2 (PE 0.	Exhibit R-2 (PE 0305906F)	
				ì	,							

RD	RDT&E PROGRAM EL	GRAM EI	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKD	OWN (R-	(6)	DATE	40	200
BUDGET ACTIVITY 7 - Operational System Developmen	l System D	evelopme	ŧ		PE NUMBER AN 0305906F	PE NUMBER AND TITLE 0305906F NCMC	DTITLE NCMC-TW/AA Systems	vstems		PROJ	PROJECT
(U) A. Project Cost Breakdown (\$ in Thousand	st Breakdown	(\$ in Thousa	(spu								
(U) Major Contract Incremental Funding(U) Award/Performance Fee(U) Total Legacy Interfaces Project	Incremental Fu ance Fee terfaces Project	mding t		FY 1996 7,096 649 7,745	FY	FY 1997 4,181 475 4.656	FY 1998	FY 1999	66 4		
(U) B. Budget Acquisition History and Plannin	uisition Histor	y and Planni	ng Informatio	g Information (\$ in Thousands)					2		
Performing Organizations: Contractor or Contrac Government Method Performing or Fund Activity Vehicle	zations: Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FV 1999	Budget to	Total
Product Development Organizations Lockheed-Martin CP/AF	nt Organizations CP/AF	<u>s</u> Oct 94	12,024		7,271	1,581	200	1,627	1.045		12 024
E-Systems	FPIF/AF	Oct 94	1,880	1,880	1,880						1,880
Kaman Sciences	CP/AF	Oct 94	18,166	18,166	12,453	2,851	2,812				18,116
Kaman Sciences	CP/AF	Oct 94	12,520	12,520	8,139	2,988	1,344				12,471
Navy/NISE	MIPR	Sep 95	3,025	3,025	2,700	325					3,025
Support and Management Organizations: N/A Test and Evaluation Organizations: N/A Government Furnished Property: N/A	ment Organizat Organizations: ad Property: N	ions: N/A N/A I/A									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	elopment Management Iluation				32,443	7,745	4,656	1,627	1,045	0	47,516
Total Project					32,443	7,745	4,656	1,627	1,045	0	47,516
Project 4409				Page	Page 16 of 16 Pages	ćes		Fxh	Exhibit R-3 (PE 0305906E)	030590RE)	-
										0000000	

PE NUMBER: 0305910F

UNCLASSIFIED

PE TITLE: Spacetrack (Space)

RDT&E BUDGET IT	TEM JUS	STIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE	Fobrusa, 1007	[6]
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305910F Space)	тте pacetrac	k (Space			oldaly 1	360
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	54,334	31,851	28,573	14,147	24,509	0	0	0	TBD	Continuing
2295 Space Surveil Net Improvement Pgm (SSNIP)*	7,927	0	0	0	0	0	0	0	0	Continuing
4239 Air Force Maui Optical Station	6,132	6,297	0	0	0	0	0	0	0	Continuing
4241 Advanced Electro Optical System (AEOS)	16,886	20,281	23,800	0	0	0	0	0	TBD	TBD
4279 Have Stare Radar	23,389	5,273	4,773	14,147	24,509	0	0	0	TBD	TBD
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

* Note: These sustainment efforts were not terminated but will continue in the Operations & Maintenance (O&M Appropriation) from FY97 and on.

(U) A. Mission Description and Budget Item Justification

Supercomputing facility for the Air Force Maui Optical Station (AMOS), were transferred to PE 0602601F in FY92. The resources and responsibility for completing populations, as well as the increasing diversity in launch trajectories, non-standard orbits, and geosynchronous altitudes, necessitates continued modernization of the SSN to meet existing and future requirements and ensure their cost-effective supportability. SPACETRACK also developed the systems interfaces necessary for the radio frequency (RF) and radar sensors. The SSN is tasked to provide space object cataloging and identification, satellite attack warning, timely notification to U.S. the HAVE STARE Radar System development were transferred to SPACETRACK from an intelligence program per Congressional direction in FY93. All of these The SPACETRACK program element represents a worldwide Space Surveillance Network (SSN) of dedicated, collateral, and contributing electro-optical, passive command and control, targeting, and damage assessment of a potential future U.S. Anti-satellite (ASAT) system. The Image Information Processing Center and forces of satellite fly-over, space treaty monitoring, and scientific and technical intelligence gathering. The continued increase in satellite and orbital debris projects are Budget Activity 7 Operational Systems Development because they involve development of or modifications to operational sensor network sites. Acquisition Strategy: 3

Except for the Congressionally-directed Maui Space Surveillance Site facilities expansion project, Advanced Electro Optical System (AEOS), and the HAVE STARE radar acquisition, the other projects in this Program Element are competetive sustaining engineering infrastructure support operations and maintenance efforts.

(U) B. Program Change Summary (\$\subseteq\$ in Thousands)

Page 1 of 17 Pages

Exhibit R-2 (PE 0305910F)

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RDT&E BUDGET I	ET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICATIC	N SHE	T (R-2	Exhibit		DATE	1	February 1997
BUDGET ACTIVITY 7 - Operational System Developmer	oment		PE NUMBER AN 0305910F		D TITLE Spacetrack (Space)	Space)			
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value		FY 1996 54,705	FY 1997 18,867 33,867		FY 1998 0	FY 1999 0			
a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprod. Below Threshold Reprogramming	Reprogram	-371	-1190 -826	0 9					
(U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	97 PB lget	54,334	31,851		28,573 28,573	14,147 14,147			
 (U) Change Summary Explanation: Funding: FY 96 reductions funded other Air Force program priorities. The Air Force budgeted continuation of the AEOS project in FY 97 and FY 98. All funds budgeted in FY 99 are to continue the HAVE STARE project. Schedule: HAVE STARE site selection was not finalized until early FY 1996; the IOC is planned for FY00. Technical: None. 	other Air Force progra he HAVE STARE proj ction was not finalized	m priorities. ´ lect. until early FY	The Air Forc	e budgeted c OC is planne	ontinuation ed for FY00.	of the AEOS	i project in l	FY 97 and FY	98. All funds
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY 1997	ry (\$ in Thousands) FY 1996 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
Space Mods with Initial Spares	18,385 10,200	7,362	1,472	1,275	4,005	4,006	4,005	Cont	Cont
Related RDT&E: (U) Program Element #0305906F, NORAD Cheyenne Mountain Complex Tactical Warning/Attack Assessment System of Systems.	305906F, NORAD CF	heyenne Mour	ıtain Comple	x Tactical W	arning/Atta	ck Assessme	nt System o	f Systems.	
(U) D. Schedule Profile	FY 1996	4	FY 1997	34 4	-	FY 1998	4	FY 1999	999 3
(U) GEODSS Telescopes O&M Mods (U) Implementation & sustainment (U) AEOS telescope/facility (U) Factory acceptance/occupancy		· · ×	1			1			,
		Pa	Page 2 of 17 Pages	ıges			Exhibit R-	Exhibit R-2 (PE 0305910F	10F)
			1704						

RDT&E BUDGET ITEM JU	TEM JUSTIFICATION SHEET (R-2 Exhibit)	(t) DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Spacet	pace)
FY 19		FY 1998 2 3 4 1 2 3 4
 (U) HAVE STARE radar (U) Overseas site selection decision x (U) Deinstall Test Site (U) Reinstall at Operational Site 		*
	Page 3 of 17 Pages	Exhibit R-2 (PE 0305910F)

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		RDT&E BUDGET IT	EM JUS	TIFICA	TION S	EM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhi	ibit)		DATE FO	February 1997	7.0
<u></u>	вирсет астіміту 7 - Operationa	вирсет астічіту 7 - Operational System Development			PE N	PE NUMBER AND TITLE 0305910F Spac	тіт <u>ге</u> Spacetrad	отпые Spacetrack (Space)			2	РРОЈЕСТ 2295
	Ŏ	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
22	2295 Space Surveil	Space Surveil Net Improvement Pgm (SSNIP)*	7,927	0	0	0	0	0	0	0	0	Continuing
*	Vote: These sustai	* Note: These sustainment efforts were not terminat	ed but will c	ontinue in th	e Operation	ıs & Mainter	nance (O&M	ed but will continue in the Operations & Maintenance (O&M Appropriation) from FY97 and on.	on) from FY	97 and on.		
5	A. Mission De Space surveilla	(U) A. <u>Mission Description and Budget Item Justification</u> Space surveillance includes space object cataloging and	tification ging and ide	ntification a	nd supports	the Space D	efense missi	stification Sing and identification and supports the Space Defense missions of weapons support, attack warning for U.S. satellites.	ons support,	attack warni	ne for U.S.	atellites.
	maintenance of provides the su reduce support communication This activity will	maintenance of space order of battle, cover-up alerts, and identification/assessment of space objects. The Space Surveillance Network Improvement Program (SSNI provides the sustaining engineering to correct identified deficiencies in support of those mission requirements. SSNIP also implements modifications required to reduce supportability/maintainability O&M costs. SSNIP efforts currently include reducing uncorrelated target errors, orbital debris measurement and research, communications/data link optimization, system architecture analyses and changes to the Ground-based Electro-Optical Deep Space Surveillance System (GEODSS). This activity will continue as part of normalized sustaining engineering support services in the O&M appropriate to the continue as part of normalized sustaining engineering support services in the O&M appropriate to the continue as part of normalized sustaining engineering support services in the O&M appropriate to the continue as part of normalized sustaining engineering support services in the O&M appropriate to the continue as part of normalized sustaining engineering support to the continue as part of normalized sustaining engineering support to the continue as part of normalized sustaining engineering support to the continue as part of normalized sustaining engineering engin	alerts, and ic dentified def sts. SSNIP e architecture	lentification ficiencies in fforts currer analyses ar	/assessment support of t itly include id changes t	of space obj hose mission reducing und the Ground	ects. The Spanie	alerts, and identification/assessment of space objects. The Space Surveillance Network Improvement Program (SSNIP) identified deficiencies in support of those mission requirements. SSNIP also implements modifications required to sts. SSNIP efforts currently include reducing uncorrelated target errors, orbital debris measurement and research, architecture analyses and changes to the Ground-based Electro-Optical Deep Space Surveillance System (GEODSS).	ance Networ so implement bital debris	k Improvem tts modificat measuremen turveillance	ent Program ions require it and resear System (GE	(SSNIP) I to th, DDSS).
	Budget Activity operational SP	Budget Activity 7 Operational Systems Development because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	pment becau	use it involve	ss a level-of	effort for su	stained engi	neering supp	ort for devel	opment of, c	i nis project i or modificati	s in ons to, an
111	(U) \$4,718 (U) \$2,109 (U) \$1,100	Continue level-of-effort support to GEODSS and Eglin O&M cost reduction modifications. Continue systems engineering level-of-effort to define, analyze and model operating and maintenance sustainment efforts for FY97 and on. Continue astrodynamic standards, star catalog maintenance and deep space anomaly detection efforts to improve the accuracy of orbital element	t to GEODS evel-of-effor ds, star catal	S and Eglin rt to define, og maintena	O&M cost 1 analyze and nce and dee	eduction mo model opera p space anon	difications. tring and ma	intenance sus on efforts to i	stainment ef mprove the	forts for FY9	97 and on. orbital eleme	nt
1	(U) \$7,927	data, to improve consistency between sensors and to correct basic inadequacies of existing models for non-standard orbits. Total	tween senso	rs and to cor	rect basic ir	nadequacies	of existing n	nodels for non	n-standard o	rbits.		
	(U) <u>FY 1997</u> (U) \$0	Not Applicable.										
	(U) <u>FY 1998</u> (U) \$0	Not Applicable										
	(U) <u>FY 1999</u> (U) \$0	Not Applicable										
Prc	Project 2295				Page 4 of 17 Pages	17 Pages			R Ahibi	Exhibit R.2 (PE 0305910E)	305910E)	
					6 . 292 .	2292			LAISID	וואבל (רבים	303910F)	

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TFICAT	IS NOI	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PENUMBER AND TITLE 0305910F Spac	ртпе Spacetrack (Space)	k (Space	(2)		7 Z	PROJECT 2295
(U) B. Program Change Summary (\$ in Thousands)	(spi									
		FV 1996		FV 1007	FY 1998	FY 1999	<u>66</u>	Total		
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Valuea. Cong Gen Reductions		7,909		0	0		0 Con	Continuing		
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	ram	18								
(U) Current Budget Submit/President's Budget		7,927		0	0		0 Con	Continuing		
 (U) Change Summary Explanation: Funding: FY 96 increased due to returned funds from overpayment of miscellaneous Air Force bills. Schedule: None. Technical: None. 	ınds from ov	erpayment o	of miscellan	leous Air Fo	rce bills.					
(U) C. Other Program Funding Summary (\$ in Thousands)	(housands)								ſ	
(U) Other Procurement	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
(U) Space Mods with Initial Spares	18,317	10,200	7,383	1,477	1,281	4,031	4,034	4,040	Cont	Cont
(U) D. Schedule Profile	FV 1996		í	EV 1007		701 74	9	•	,	
(U) GEODSS cost savings mods(U) Implementation and sustainment	2 3	4	- ×	3	4	2 3	δ] ε. 4		2 3	4
Droject 2204				, 1						
110 501 2227			rage 5 of 17 Pages	/ Pages			Exhibi	Exhibit R-2 (PE 0305910F)	05910F)	

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RDT&E PROGRAM ELEMENT/	PROJECT (EMENT/PROJECT COST BREAKDOWN (R-3)	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spac	D ТІТLE Spacetrack (Space)	ce)	PROJECT 2295
(U) A. Project Cost Breakdown (\$ in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Sustaining Engineering Level-of-Effort (U) Total	7,927 7,927	0 0	00	0	
(U) B. <u>Budget Acquisition History and Planning Information (S in Thousands)</u> Not Applicable.	n (\$ in Thousands	a			
				,	
Project 2295	Page	Page 6 of 17 Pages		Exhibit	Exhibit R-3 (PE 0305910F)

<u></u>		RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION ST	HEET (F	-2 Exhi	bit)		DATE Fe	February 1997	197
1 POI	BUDGET ACTIVITY 7 - Operationa	BUDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305910F Spac	_{птге} pacetrad	^{р тіт∟Е} Spacetrack (Space)	(4	РРОЈЕСТ 4239
	Ō	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
42.	4239 Air Force Maui	Air Force Maui Optical Station	6,132	6,297	0	0	0	0	0	0	0	Continuing
5) A. Mission De	(U) A. Mission Description and Budget Item Jus	ustification									
	AMOS serves s Space Commar national scienc Development b site.	AMOS serves as a testbed for electro-optics and imaging technology supporting government and academic communities. It also provides operational data to Air Force Space Command: infrared signature data and compensated, imaging data used for space object identification and mission/payload assessment. Other government labs, national science foundations and other scientific agencies use of this facility are funded separately. This project is in Budget Activity 7 Operational Systems Development because it involves a level-of-effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	id imaging te compensated ic agencies u fort for sustai	chnology su , imaging da se of this far ned enginee	pporting gov ita used for s sility are fun ring support	ernment an pace object ded separate for develop	d academic identificatio ily. This pro ment of, or 1	communities n and missio yject is in Bu modifications	. It also pron/payload as Iget Activity s to, an opera	vides operati sessment. C 77 Operation ational SPA(and imaging technology supporting government and academic communities. It also provides operational data to Air Force d compensated, imaging data used for space object identification and mission/payload assessment. Other government labs, tific agencies use of this facility are funded separately. This project is in Budget Activity 7 Operational Systems effort for sustained engineering support for development of, or modifications to, an operational SPACETRACK network	Air Force nent labs, etwork
	(U) <u>FY 1996</u> (U) \$3,132 (U) \$2,000 (U) \$1,000 (U) \$6,132	Continue basic AMOS facility operations, maintenance and support of upgrade integration efforts. Continue development of an observatory control system in support of AEOS, Maui supercomputer and Continue development of sensors for daylight imaging and geosynchronous space object identification. Total	operations, a oservatory co ors for daylig	maintenance ontrol syster th imaging	and support in support of and geosynch	of upgrade of AEOS, M oronous spa	integration o faui superco ce object ide	y operations, maintenance and support of upgrade integration efforts. observatory control system in support of AEOS, Maui supercomputer and Hi-Class Lidar projects. Isors for daylight imaging and geosynchronous space object identification.	Ii-Class Lid	ar projects.		
1	(U) <u>FY 1997</u> (U) \$6,297	Continue support to Maui Space Surveillance Site (MSSS) R&D upgrades, development of MSSS observatory control system, and operational transition of AEOS.	e Surveillan	ce Site (MSS	SS) R&D upg	grades, deve	lopment of]	MSSS observ	atory contro	ol system, an	nd operationa	
1 1 1	(U) \$0	Not Applicable										
1 1 1 1 1	(U) \$0	Not Applicable										
Pr	Project 4239				Page 7 of 17 Pages	7 Pages			Exhib	Exhibit R-2 (PE 0305910F)	3305910F)	
					1700							

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ICATION	I SHEET (R-2 Exhibi	\$	DATE Fobrany 1007	1007
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spac	отπ∟е Spacetrack (Space)	(Space)	rebluar	PROJECT 4239
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	<u>6,132</u>	FY 1997 0 6,500 -203	<u>FY 1998</u> 0	FY 1999 0	Total Cost Cont	
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	6,132	6,297	0	0	Cont	
(U) Change Summary Explanation:						
Funding: Congress added \$6,500 in FY 97. Schedule: None. Technical: None.						
(U) C. Other Program Funding Summary (\$\sums\$ in Thousands) Not Applicable.						
(U) D. Schedule Profile Not Applicable.						
Project 4239	Page 8	Page 8 of 17 Pages		Ä	Exhibit R-2 (PE 0305910F)	JF)

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RDT&E PROGRAM ELEMENT/PROJECT	ROJECT C	COST BREAKDOWN (R-3)	DOWN (R-		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spac	D TITLE Spacetrack (Space)	(eo)	PROJECT 4239
(U) A. Project Cost Breakdown (S in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Operations and maintenance support level of effort (U) Total	6,132 6,132	6,297 6,297	00	00	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not Applicable.	S in Thousands)				
Project 4239	Page	Page 9 of 17 Pages		Exhibit	Exhibit R-3 (PE 0305910F)

	RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (F	2-2 Exhi	lbit)		DATE Fe	February 1997	197
BUDGET ACTIVITY 7 - Operationa	3UDGET ACTIVITY 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305910F Spac	गा⊤∟E }pacetraα	D TITLE Spacetrack (Space)	_		9 4	PROJECT 4241
5	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estímate	FY 2003 Estimate	Cost to Complete	Total Cost
4241 Advanced Elec	Advanced Electro Optical System (AEOS)	16,886	20,281	23,800	0	0	0	0	0	TBD	TBD
(U) A. Mission De	(U) A. Mission Description and Budget Item Jus	ustification									
The Advanced FY91 per Con _i the continuatio support for dev	The Advanced Electro-Optical System (AEOS) is a 3.67 meter telescope addition to the Air Force Maui Optical Station (AMOS). The AEOS program was initiated in FY91 per Congressional direction. Congress continued to appropriate funding for this project in FY93, FY94, FY96, and FY 97. The Air Force budgeted for the continuation of AEOS in FY 97 and FY 98. This project is in Budget Activity 7 Operational Systems Development because it involves sustained engineering support for development of, or modifications to, an operational SPACETRACK network site.	S) is a 3.67 meter telescope addition to the Air F continued to appropriate funding for this project 8. This project is in Budget Activity 7 Operatio to, an operational SPACETRACK network site.	eter telescop appropriate f t is in Budg, mal SPACE	e addition to unding for the et Activity 7 TRACK net	of the Air For his project in Operational work site.	rce Maui Opi n FY93, FY il Systems D	tical Station ('94, FY95, FY evelopment b	(AMOS). Tr 796, and FY because it in	he AEOS pre ' 97. The Ai volves sustai	ogram was ir r Force budg ined engineei	uitiated in eted for ring
(U) <u>FY 1996</u> - (U) \$9,386 - (U) \$6,500 - (U) \$1,000 - (U) \$1,000	Continue telescope development incremental funding. Continue sensor instrumentation acquisitions. Continue lab support. Total	ent incremental ion acquisitions.	al funding. is.								
(U) <u>FY 1997:</u> - (U) \$13,427 - (U) \$6,854 - (U) \$20,281	Continue telescope development incremental funding. Continue atmospheric characterization studies, spectro Total	nt increment rization studi	al funding. ies, spectrog	raph researc	h, developn	ent of adapt	ent incremental funding. erization studies, spectrograph research, development of adaptive optics system, and sensors development.	stem, and se	nsors develo	pment.	
(U) <u>FY 1998</u> - (U) \$23,800 - (U) \$23,800	Continue development of adaptive optics, sensors, and integration of the telescope system, purchase pre-operational spares, continue development of AEOS and MSSS observatory control system, and R&D upgrades to MSSS. Total	tive optics, sery control sya	ensors, and i	ntegration o &D upgrade:	f the telesco s to MSSS.	pe system, p	ourchase pre-	operational s	spares, conti	nue developr	nent
(U) <u>FY 1999</u> (U) \$0 	Not Applicable										
Project 4241				Page 10 of 17 Pages	17 Pages			Exhib	Exhibit R-2 (PE 0305910F))305910F)	
				1712							

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RDT&E BUDGET ITEM JI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	R-2 Exhibit		DATE Februa	February 1997
вирбет астіvіту 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spac	D305910F Spacetrack (Space)	Space)		PROJECT 4241
(U) B. <u>Program Change Symmary (\$ in Thousands)</u>					Total	
(U) Previous President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 16,886	FY 1997 13,427 21,927	FY 1998 0	FY 1999 0	Cost	
 a. Cong Don Neuronous b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget 	16,886	-826	23,800 23,800	0	TBD	
(U) Change Summary Explanation:						
Funding: Congress added \$8,500 in FY 97. The Air Force budgete Schedule: Facility delays due to weather impacts/dome installation. Technical: None.	97. The Air Force budgeted for project continuation in FY98. r impacts/dome installation.	project continuatio	n in FY98.			
(U) C. Other Program Funding Summary (\$\sin \text{Thousands}\$) \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1ds) FY 1998 7,362	<u>FY 1999</u> 1,472	FY 2000 1,275	FY 2001 4,005	FY 2002 4,006	FY 2003 4,005
(U) B. Schedule Profile 1 2 (U) Factory acceptance/occupancy facility (U) Telescope Factory Acceptance	FY 1996 2 3 4	FY 1997 1 2 3	4 ×	FY 1998 2 3	FY 1999	3 4
Project 4241	Pa	Page 11 of 17 Pages			Exhibit R-2 (PE 0305910F)	10F)
		1713				

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	PE NUMBER AND TITLE 0305910F Spacetrack (Space)	<u>FY 1999</u>	
1	BUDGET ACTIVITY 7 - Operational System Development	1 2	Project 4241

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JECT C	OST BREAK	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Spacetrack (Space)	E cetrack (Spa	ce)	PROJECT 4241
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Directed level of effort for AEOS Maui facilities expansion (U) Total	16,886 16,886	20,281 20,281	23,800 23,800	00	
(U) B. Budget Acquisttion History and Planning Information (\$ in Thousands) Not Applicable.	Thousands				
Project 4241	Page	Page 13 of 17 Pages		Exhibi	Exhibit R-3 (PE 0305910F)

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		RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	1-2 Exhi	bit)		DATE	Fohrijan, 1997	6
7 - (BUDGET ACTIVITY 7 - Operation	вирсет Астинт 7 - Operational System Development			PE NI 030	PE NUMBER AND TITLE 0305910F Spac	TITLE pacetrac	D TITLE Spacetrack (Space)			4	PROJECT 4279
		COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4279	Have Stare Radar	tadar	23,389	5,273	4,773	14,147	24,509	0	0	0	TBD	TBD
9	A. Mission The HAVE S HS system an imaging radai maintenance This system is	(U) A. Mission Description and Budget Item Justification The HAVE STARE (HS) radar was transferred from the intelligence budget in FY93 at the direction of Congress. The Air Force has identified a requirement for the HS system and has programmed funding in this program element to complete development and to deploy the system. HS is a high resolution X-band tracking and imaging radar with a 27 meter mechanical dish antenna. HS will be deployed as a dedicated space surveillance sensor to support the mission of space object catalog maintenance of deep space objects and mission payload assessment. HS will retain its original design features and their inherent potential to support other missions. This system is currently in the EMD phase leading to an IOC in FY00.	Istification I from the int S program ele I antenna. H3 I payload ass	celligence bu ement to con S will be der essment. HS C in FY00.	dget in FY9 nplete devel sloyed as a d s will retain	3 at the direct opment and edicated spatisfic original of	ction of Cong to deploy the ice surveillan lesign feature	gress. The A s system. Ht ice sensor to es and their i	vir Force has S is a high re support the inherent pote	s identified a ssolution X-t mission of s ential to supp	requirement pand tracking pace object or other mis	for the and atalog sions.
	(U) <u>FX 1996</u> (U) \$4,000 (U) \$6,000 (U) \$10,155 (U) \$20,155	Continue in-CONUS developmental and integration testing and evaluation at Vandenberg AFB, CA. Continue incorporation of functionality and connectivity modifications required for integration with the Space Surveillance Network. Begin site preparation at classified operational deployment location. Total	nental and int tionality and fied operation	egration test connectivity tal deployma	ing and eval / modificatio ent location.	uation at Va ms required	ndenberg Al for integratic	FB, CA. on with the S	space Survei	llance Netwo	ork.	
111	(U) <u>FY 1997</u> (U) \$4,000 (U) \$1,273 (U) \$5,273	Continue in-CONUS developmental and integration testing and evaluation at Vandenberg AFB, CA. Continue site preparation at classified operational deployment location.	ental and int ssified opera	egration test tional deploy	ing and eval yment locati	uation at Va on.	ndenberg AI	·B, CA.				
- 555	(U) <u>FY 1998</u> (U) \$2,400 (U) \$2,373 (U) \$4,773	Continue radar development incremental funding. Continue preparations for deployment Total	cremental fui syment	nding.								
<u> </u>	(U) <u>FY 1999</u> (U) \$1,000 (U) \$2,000 (U) \$10,147 (U) \$1,000 (U) \$14,147	Continue radar development incremental funding. Continue facility preparations Deploy and re-install program equipment Logistics and training Total	cremental fur equipment	oding.								
Proje	Project 4279				Page 14 of 17 Pages	17 Pages			Exhibi	Exhibit R-2 (PE 0305910F)	305910F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhib	Œ.	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305910F Spac	אסברודנב Spacetrack (Space)	(Space)	PROJECT 4279
(U) FY 2000 (U) \$8,000 Complete facility preparations. (U) \$7,000 Continue installation and checkout (U) \$3,000 Logistics and Training (U) \$6,509 Conduct system formal testing and turnover (U) \$24,509 Total				
(U) B. Program Change Summary (\$ in Thousands)		FY 1998	FY 1999	Total
(U) Previous President's Budget 23,778 (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong Gen Reductions	FY 1997 5,440 5,440	0	0	Cost TBD
b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97PB (U) Current Budget Submit/President's Budget	-167	4,773 4,773	14,147 14,147	TBD
(U) Change Summary Explanation:				
Funding: FY 96 reduction for other Air Force program priorities. The Air Force budgeted to continue this project in FY 98 and FY 99. Schedule: Project delayed due to delay in overseas site selection and previously withheld funding. Technical: Development delayed due to withheld funding based on delayed siting decision.	Air Force budgeted ta viously withheld fur yed siting decision.	o continue this iding.	project in FY 98	and FY 99.
(U) C. Other Program Funding Summary (\$ in Thousands)				į
Project 4279	Page 15 of 17 Pages		E	Exhibit R-2 (PE 0305910F)
	1717			

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RDT&E BUDGET ITE	EM JUSTIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	t) DATE	TE Fahrusm, 1007
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305910F Space)	(Space)	PROJECT 4279
(U) None.	FY 1996 FY 1997	FY 1998 FY 199	FY 2002 F	Y 2003 To Total
(U) D. Schedule Profile	<u>X 1996</u>	V 199	FY 1998	<u>FY 1999</u>
1 (U) HAVE STARE Radar Siting Decision (U) HAVE STARE Deinstall Test Site (U) HAVE STARE Reinstall at Operational Site	2 × 3	1 2 3 4 1	2 3 x	1 2 3 4 x
Project 4279		Page 16 of 17 Pages	Exhibit R-	Exhibit R-2 (PE 0305910F)

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	PROJECT COS	ST BREAK	DOWN (R-3		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE N 03	PE NUMBER AND TITLE 0305910F Spac	PE NUMBER AND TITLE 0305910F Spacetrack (Space)	(eo	PROJECT 4279
(U) A. Project Cost Breakdown (\$ in Thousands)					
	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Prime Contract	12,789	3,455	2,773	10,000	
(U) SPO Support	2,300 2,100 23,389	1,818	2,000	2,147 2,147 14,147	
Project 4279	Ра9е 17 о	Pase 17 of 17 Pases		Exhibii	Exhibit R-3 (PE 0305910F)

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PE NUMBER: 0305911F PE TITLE: Defense Support Program (Space)

RDT&E BUDGET IT	EM JUS	TIFICA	IS NOIL	HEFT (R	TEM JUSTIFICATION SHEET (R.2 Exhibit)	E E		DATE		
BUDGET ACTIVITY			PE	PE NUMBER AND TITLE	TITIE			T Le	February 1997	997
7 - Operational System Development			030	0305911F C	Defense Support Program (Space)	upport P	rogram	(Space)		
COST (In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	33,969	25,009	23,193	39,946	24,446	20,208	34,355	35,140	0	2,054,500
3615 Shield/Alert	5,262	680'6	9,108	8,602	3,625	4,247	0	0	0	56,371
3624 Defense Support Program	28,707	15,920	14,085	31,344	20,821	15,961	34,355	35,140	0	1,998,129
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0		
(U) A. Mission Description and Budget Item Justification The Defense Support Program (DSP) is a system of satellites in geostationary orbits, fixed and mobile ground processing stations, one multi-purpose facility, and a ground communications network. DSP's primary mission is to provide tactical warning and limited attack assessment of a ballistic missile attack. The Shield/ALBRT (Attack and Launch Early Reporting to Theater) is a ground station mission processing upgrade which exploits inherent satellite canability to provide theater missile.	3624 to 3615 to correct erroneous Shield/ALERT reductions. 1stification tem of satellites in geostationary orbits, fixed and mobile grounary mission is to provide tactical warning and limited attack ary mission station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station mission processing upgrade which expless of the station is the station of the station is the station of the station is the station of the station of the station is the station of the stati	o correct en s in geostati to provide a station miss	oneous Shie onary orbits tactical warr	dd/ALERT r fixed and n ing and limi	eductions. nobile ground ted attack as: which exploi	d processing sessment of standards	stations, on a ballistic m	e multi-purp issile attack. bility to prov	ose facility, The Shield	and a /ALERT
warning and cueing. DSP is an operational system and is, therefore, included in Budget Activity 7, Operational Systems Support. (U) Acquisition Strategy:	tem and is, th	nerefore, inc	luded in Buo	dget Activity	7, Operation	nal Systems	Support.			
DSP is currently sustaining production of the remaining satellites, 18 through 23. This sustainment includes post production storage, testing, preparation for launch and on orbit testing. Current contract efforts are required to stretch the support of launch centers to 12 months from the originally contracted 6 month launch centers. Satellite 23 will be the last of the DSP satellites to be procured. The follow-on to DSP, Space Based Infrared Systems satellites, will replace DSP starting in FY02. The ALERT squadron was activated on 1 Oct 94 with an ALERT Initial Operating Capability reached on 10 Mar 95. Further Shield RDT&E efforts will be required to meet the Air Force Space Command Full Operational Capability requirements and for use as the path finder for the first increment of the ground consolidation.	maining sate e required to to be procur 4 with an AI	illites, 18 thr stretch the s ed. The foll ERT Initial	ough 23. The support of la low-on to DS Operating Comments and for ments and for the conditions of the	his sustainmounch centers SP, Space Ba Capability res	ent includes of to 12 month used Infrared ached on 10 path finder f	post product is from the o Systems sat Mar 95. Fur or the first in	ion storage, riginally cor ellites, will i ther Shield	testing, prep ntracted 6 m replace DSP RDT&E effc the ground c	aration for lonth launch starting in Forts will be reconsolidation	aunch centers. 'Y02. equired to
(U) B. <u>Program Change Summary (\$ in Thousands)</u>	(sp									
(U) Previous President's Budget (FY97) (U) Appropriated Value		FY 1996 34,870	떠	FY 1997 29,397 26,844	FY 1998 36,715	FY 1999 36,022		<u>Total Cost</u> Continuing		
a. Congressional General Reduction/Adds b. SBIROther			7	-1,2 <i>77</i> -558						
c. Ominious of Other Above I hreshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB	am	-901			-13,522	3,924	4			
			Page 1 of 12 Pages	2 Pages			Exhibit	Exhibit R-2 (PF 0305911F)	105911E)	

RDT&E BUDGET IT	ET ITEN	I JUSTI	FICATI	ON SHE	ET (R-2	EM JUSTIFICATION SHEET (R-2 Exhibit)		DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	pment			PE NUMI 03059	PE NUMBER AND TITLE 0305911F Defe	ense Sup	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	am (Spa	(e)	
(U) Current Budget Submit/President's Budget	dget		FY 1996 33,969	<u>FY 1997</u> 25,009	[H]	FY 1998 23,193	FY 1999 39,946	Total Cost Continuing	# S	
(U) Change Summary Explanation: Funding: FY98/99 reductions fund other AF and DoD priorities	d other AF ar	ld DoD prio	rities							
Schedule: None.										
Technical: None.										
(U) C. Other Program Funding Summary (\$ in	Į,	Thousands)	100 A	000	000	1000 AL			- - -	
(U) Missile Procurement (U) Other Procurement	64,729 37,476	70,693	113,708 113,708 186	137,722 90	195,527 195,527 14	181,402 6	FY 2002 140,498 0	FY 2003 140,735 0	To Complete Continue	Total Cost Continue 45,438
Related RDT&E: (U) PE #603441F - SBIRS Dem/Val (U) PE #604441F - SBIRS EMD										
(U) D. Schedule Profile		FY 1996		ŢŦ.	FY 1997		FY 1998		FY 1999	
 (U) DSP Satellite Deliveries (U) Begin ALERT Blue Suit Org. Maint. (U) Final ALERT Hardware Installation (U) SBIRS MCS Operational (U) DSP Satellite Launches 		X X	4	- × - ×	6	4 L	X X	4	x × ×	νι ω 4 Χ
			Ь	Page 2 of 12 Pages	Pages			Exhibit R-2	Exhibit R-2 (PE 0305911F)	
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RD	RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	HEET (F	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ibit)		DATE FeI	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developme	stem Development			PE N 03(PE NUMBER AND TITLE 0305911F Defe	TITLE Jefense S	ve number and Title 0305911F Defense Support Program (Space)	rogram ((Space)		РРОЈЕСТ 3615
COST (In	COST (in Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3615 Shield/Alert*		5,262	680'6	9,108	8,602	3,625	4,247	0	0	0	56,371
(U) A. <u>Mission Description and Budget Item Justification</u> The Shield project identified changes to existing DSP pr timely and accurate detection, identification, location an accurate, timely launch prediction. In addition, this data prediction. The Air Force will transition these enhancem	A. Mission Description and Budget Item Justification The Shield project identified changes to existing DSP processing to enhance theater missile defense warning capabilities. These enhancements will facilitate more timely and accurate detection, identification, location and tracking of theater missile threats. This data supports attack operations/counterforce operations by provid accurate, timely launch prediction. In addition, this data will support active and passive defense forces by providing target cueing data and precise impact point prediction. The Air Force will transition these enhancements to an operational system, ALERT, to provide continuous real-time warning to the warfighter.	stification ng DSP proc cation and t , this data w enhancemen	essing to en racking of th ill support ac its to an ope	hance theate leater missilk ctive and pas rational syste	r missile del e threats. Th ssive defense	fense warnin nis data supp e forces by p , to provide o	ustification sting DSP processing to enhance theater missile defense warning capabilities. These enhancements will facilitate more location and tracking of theater missile threats. This data supports attack operations/counterforce operations by providing on, this data will support active and passive defense forces by providing target cueing data and precise impact point se enhancements to an operational system, ALERT, to provide continuous real-time warning to the warfighter.	s. These enh berations/cot et cueing da el-time warn	nancements vanterforce op ta and precisioning to the vanterforce op ta and precisioning to the vante v	will facilitate perations by se impact po varfighter.	more providing int
(U) FY 1996 - (U) \$7,086 - (U) \$329 - (U) \$1,567 - (U) \$3,720 - (U) \$3,720 - (U) \$3,720	Continue development to achieve ALERT full operational capability. Continue Operations and Maintenance Training Plan development and implementation. FFRDC and office support. Funds to be transferred from BPAC 3624 to BPAC 3615, within PE 35911F, to correct erroneous Shield/ALERT reductions. Total	ent to achiev is and Maint support. rred from BF	/e ALERT fi enance Trair 'AC 3624 to	ull operation ning Plan dev BPAC 3615	ial capability velopment a s, within PE	/. nd implemer 35911F, to c	ntation. :orrect errone	ous Shield//	ALERT redu	ictions.	
(U) <u>FY 1997</u> - (U) \$6,876 - (U) \$2,213 - (U) \$9,089	Continue engineering task development to protype and implement ALERT capabilities leading up to Increment I. FFRDC and office support. Total	ng task deve support.	lopment to p	rotype and i	mplement A	LERT capat	bilities leadin	g up to Incr	ement I.		
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$7,273 Continue - (U) \$1,835 FFRDC at - (U) \$9,108 Total	<u>housands):</u> Continue engineering task development to prototype and implement ALERT capabilities leading up to Increment I. FFRDC and office support. Total	k developme rt.	ant to protoity	/pe and impl	ement ALE	RT capabiliti	ies leading uj	p to Increme	nt I.		
(U) FY 1999 (\$ in Thousands): - (U) \$6,967 Continue - (U) \$1,635 FFRDC at - (U) \$8,602 Total	engineering t nd office supp	sk developm rt.	ent to protot	ype and imp	lement ALE	3RT capabilít	ask development to prototype and implement ALERT capabilities leading up to Increment 1.	p to Increme	ent I.		
Project 3615				Page 3 of 12 Pages	12 Pages			Exhib	Exhibit R-2 (PE 0305911F)	3305911F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (F	R-2 Exhibi	 -	DATE	1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	TITLE Defense Sup	port Progr	am (Space) 361	9 1397 PROJECT 3615
(U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (FY97) (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogramming d. Below Threshold Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	FY 1997 912 912 -270 8,447	FY 1998 9,185 -77 9,108	FY 1999 8,685 -83 8,602	Total Cost	
(U) Change Summary Explanation: Funding: FY96 increase was transfered from BPAC 3624 , Defense Support Program. Schedule: None. Technical: None. (U) C. Other Program Funding Summary (\$\$ in Thousands) Not Applicable Related RDT&E. (U) PE #603441F - SBIRS Dem/Val (U) PE #603441F - SBIRS EMD (U) D. Schedule Profile (U) B. Schedule Profile (U) Begin ALERT Blue Suit Org. Maint. (U) SBIRS MCS Operational	port Program. \(\frac{\FY 1997}{2} \)	4	FY 1998	4 1 2 3	999 3 ×
Project 3615	Page 4 of 12 Pages 1724			Exhibit R-2 (PE 0305911F)	(F)

RDT&E	PROG	RAM EL	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	ROJECT	COSTB	REAKD	OWN (R	3)	DATE	1007	700
BUDGET ACTIVITY 7 - Operational System Developme	stem De	velopmer	nt		PE NUMBE 030591	PE NUMBER AND TITLE 0305911F Defen	oddnS esi	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	ן ר (Space)	enidary	3615 3615
(U) A. Project Cost Breakdown (\$ in Thousands)	akdown (\$	in Thousanc	<u>(s)</u>	FY 1996	FY 1997	997	FY 1998	FY 1999			
re Develo n Manage g Develop pmental 1 al Data ment Eng nents Corganiza	t Support t t and Evaluati ing Suppor ing Suppor ing Suppor ing Suppor ing Suppor ing Suppor ing Sistematical ing Suppor ing Sistematical ing Suppor ing Sistematical ing Suppor ing Sistematical ing Suppor ing Sistematical ing Support ing Sistematical ing Support ing Sistematical ing Support ing Sistematical ing	ion t and Plannin	100 1,833 1,833 1,380 0 4,102 63 1,504 -3,720 5,262 5,262	100 1,833 1,380 0 4,102 63 1,504 -3,720 5,262 5,262	(1,458 1,711 200 2,672 0 30 2,183	1,250 1,776 903 1,271 1,473 35 1,800 9,108	1,455 1,595 365 1,327 1,778 35 1,600 8,602			
Oovernment Method/1ype Performing or Funding Activity Vehicle Product Development Organizations		Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Aerojet CPAF A SPARTA CPAF A Lincoln Lab PO M Aerojet (FO)* CPAF O NRC Support and Management Organizations	F 7 Trganizatior	Aug 92 Aug 94 Mar 95 Oct 95	27,035	27,671	7,898 487 288 0	6,948	6,491	7,273	6,967	7,002	7,898 487 288 34,681 239
SMC Dept Air Force AF616 Test and Evaluation Organizations Not Applicable	6 zations	I			1,624 6,141	1,567	2,213	1,835	1,635	870	9,744 6,754
Project 3615				Page	Page 5 of 12 Pages	sə.		Exhil	Exhibit R-3 (PE 0305911F)	0305911F)	

RDT&E PROGRAM ELEME	EMENT/PROJECT COST BREAKDOWN (R-3)	ST BRI	EAKDO	WN (R-:	()	DATE F (February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	PE 03	PE NUMBER AND TITLE 0305911F Defe	ND TITLE Defens	e Suppor	o π⊓E Defense Support Program (Space)	(Space)		РRОЈЕСТ 3615
(U) B. Budget Acquisition History and Planning Info	g Information Continued (\$ in Thousands)	ousands)						
ernment Furnished Property: Contract Method/Type Award or	,	Total	•	•		•		• •
Item or Funding Obligation Delivery Description Vehicle Date Date Product Development Property GF Hardware Support and Management Property Not Applicable	<i>ا</i>	Prior to FY 1996 1	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u> 427
Test and Evaluation Property Not Applicable *EAC does not include award fee		0 673	101	2401	,	120 7	6	43 603
Subtotal Frounce Development Subtotal Tourner and Management Cutchel Tourner Benchmission		6,075 7,765	1,795	2,598	1,835	1,635	,,002 870	43,393 16,498
Adjustments Total Project	-	16,438	-3,720 5,262	680'6	9,108	8,602	7,872	-3,720 56,371
Project 3615	Page 6 c	Page 6 of 12 Pages			EX	Exhibit R-3 (PE 0305911F)	0305911F)	

RDT8	RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	₹-2 Exhi	bit)		DATE	February 1997	792
BUDGET ACTIVITY 7 - Operational System Development	em Developmen			PE NI 030	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	TITLE Jefense S	Support P	rogram	(Space)		РВОЈЕСТ 3624
COST (In Thousands)	housands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3624 Defense Support Program	E	28,707	15,920	14,085	31,344	20,821	15,961	34,355	35,140	0	1,998,129
(U) A. Mission Description and Budget Item Justification The Defense Support Program (DSP) system provides a space-based surveillance system to detect and report missile and space launches and nuclear detonations in	on and Budget Item Ju rogram (DSP) system p	stification rovides a spa	ce-based sur	veillance sy	stem to dete	ct and report	t missile and	space launc	hes and nucl	lear detonati	ns in
processing stations, one multi-purpose facility, and a ground communications network. DSP's primary mission is to provide tactical warning and limited attack assessment of a ballistic missile attack. DSP also detects and renorts muclear detonation events and amount of a ballistic missile attack.	inst, and post-adack per i-purpose facility, and a OSP also detects and rer	ground com	or system communications	network. E	SP's primar	y mission is	in geostation to provide ta	nary orbits, I	fixed and mo ng and limite	obile ground ed attack ass	essment
provides funding for development to modernize ground stations to ensure continued operability, integration of satellites to launch vehicles, procurement of satellites and ground station of the DSP ground stations.	ment to modernize grou	ind stations t round station	o ensure con	tinued oper	ability, integ	ration of sate	ellites to laur	ng and expro	ortanion. 1 m , procuremen	is program e it of satellite	ement s and
(U) <u>FY 1996</u>				;							
- (U) \$5,077 - (U) \$5,077	Continue special studies to support DSP satellite manufacturing, production, test, and Continue orbital constellation support software development and anomaly resolution	studies to support DSP satellite manufacturing, production, test, and launch activities as required. constellation support software develonment and anomaly resolution	ort DSP satel	lite manufa	cturing, prod	luction, test,	and launch a	activities as 1	required.		
	Continue independent verification and validation.	nt verificatio	n and valida	tion.	our must	mary resolut	.ioi:				
	FFRDC.										
	Program office support (TDYs, supplies, etc.).	oort (TDYs, s	upplies, etc.	Ċ							
- (U) \$3,394 - (II) \$250	Continue yearly soft	software development facility support to ground station operations activities.	pment facilit	y support to	ground stati	ion operation	ns activities.		•		
	Continue development to replace unsupportable NADEC (Kadiation Detection) Data Units at the fixed ground stations. Continue development and sustaining capabilities for acquisition logistics engineering.	ent to replace	ning capabil	ities for acq	(Kadiation I uisition logi:	Detection) Li stics enginee	ata Units at i ering	the tixed gro	ound stations		
- (U) \$1,410	Continue acquisition and engineering support	n and engin	eering supp	ort	0	0	ò			٠	-
(U) \$2,086	Continue engineering task development to prototype and implement ALERT capabilities leading up to Increment I.	ig task develo	pment to pre	ototype and	implement /	ALERT caps	ıbilities leadi	ng up to Inc	rement I.		
(C) \$28,707 - (U) \$28,707	Total	110111 DFAC 3024 to BFAC 3013 Within FE 339 LLF	024 to BFAC	. 3013 With	n PE 35911.	ı.					
(U) <u>FY 1997</u>										1	
(U) \$1,690	Development of en	engineering efforts for DSP Spacecraft.	orts for DSP	Spacecraft.							
= (U) \$5,378 (T) \$234	Development of engineering efforts for DSP Sensor.	ineering effo	rts for DSP	Sensor.							
	Collinue independent verification and validation. FFRDC.	nt verificatio	n and validal	ion.							
9	Continue acquisition and engineering support.	and enginee	ring support								
- (U) \$1,000 - (U) \$5,797	Continue development and sustaining capabilities for acquisition logistics engineering. Program office support (TDYs, supplies, etc.).	int and sustai ort (TDYs, su	ning capabil 1pplies, etc.)	ities for acq	uisition logi:	stics enginee	ring.				r
Project 3624				Page 7 of 12 Pages	2 Pages			Exhibi	Exhibit R-2 (PE 0305911E)	305911E)	
										1 2000	

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
ystem	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	(Space)	РРОЈЕСТ 3624
0 n T			
 (U) \$1,800 FFRDC (U) \$1,800 Program office support (computer support) (U) \$14,085 Total 			
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$5,000 Software changes to accomodate Year 2000 roll-over - (U) \$1,800 Program office support (computer support) - (U) \$800 FFRDC - (U) \$23,744 ECO Risk - (U) \$31,344 Total			
Project 3624	Page 8 of 12 Pages	Exhibit R-2 (PE 0305911F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHEET	(R-2 E)	chibit)		DATE	February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0305911F Defe	ND TITLE Defens	ddnS əs	ort Progr	D TITLE Defense Support Program (Space)	;e)	PROJECT 3624
 (U) B. Program Change Summary (\$ in Thousands) (U) Previous President's Budget (FY97) (U) Appropriated Value a. Congressional General Reductions b. SBIR/Other c. Omnibus or Other Above Threshold Reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget 	FY 1996 29,770 -1,063	FY 1997 28,485 25,485 -9,007 -558 15,920	FY 1998 27,530 -13,445 14,085		FY 1999 27,337 4,007 31,344	Total Cost Continuing		
(U) Change Summary Explanation: Funding: FY98 reductions funded other AF and DOD priorities Schedule: None. Technical: None.	ities							
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY 1997	FY 1998 113,708 186	EY 1999 E7 137,722 1 90	FY 2000 I	FY 2001 181,402 6	<u>FY 2002</u> 140,498	FY 2003 140,735	To Complete Continuing	Total Cost Continuing 41,158
(U) D. Schedule Profile (U) D. Schedule Profile (U) Satellite deliveries (U) Satellite launches	4	FY 1997 1 2 3	7.E	-	FY 1998 2 3 X	4	EX 1999 1 2 3 X X	99 3 4
Project 3624	Pag	Page 9 of 12 Pages				Exhibit R-2	Exhibit R-2 (PE 0305911F)	
		1729						

RD.	RDT&E PROGRAM	日	EMENT/PROJECT		COSTB	COST BREAKDOWN (R-3)	JWN (R-	3	DATE	Fahrisan, 1997	64
BUDGET ACTIVITY 7 - Operational System Development	l System De	velopmen			PE NUMBER AN 0305911F	PE NUMBER AND TITLE 0305911F Defens	oddnS əs	D ππ.E Defense Support Program (Space)	(Space)	d in the second	93. 3624
(U) A. Project Cost Breakdown (\$ in Thousand	st Breakdown (9	in Thousand	(§	FY 1996		FY 1997	FY 1998	FY 1999			
 (U) Program Office Support (U) Contractor Engineering Support (U) Research Personnel (FFRDC) (U) Travel (U) Government Engineering Support 	Support ineering Support nnel (FFRDC) igineering Suppo	t		5,743 11,615 3,696 1,000 2,933		4,797 7,342 740 1,000 2,041	1,800 11,485 800 0	1,800 5,000 800 0			
(U) Adjustments (U) ECO/Risk (U) Total				3,720		15,920	14,085	23,744 31,344			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition History	and Planning	Information (\$	in Thousand	S						
Performing Organizations: Contractor or Government Methoo Performing or Fun.	zations: Contract Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Rudaet	Dides	D. J.		,	
Activity Vehicle Product Development Organizations	Vehicle of Organizations	Date	EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Sudget to Complete	Program
Aerojet Aerojet Aerojet Aerojet	CPAF CPAF CPFF CPAF	Oct 93 Sep 93 Oct 95	24,352	24,352	16,922 9,025 25,743 124	5,077					21,999 9,025 25,743 2,454
Loral DOE Program Off Sppt ECO Risk	FPI/AF/CPF P.O. Various		28,137	37,732	37,510 10,474 57,751	222 250 6,743	5,797	1,800	1,800	6,230	37,732 10,724 80,122
Loral	CPAF		22,975	22,975	22,975				23,744	104,670	23,744 22,975
Project 3624				Page	Page 10 of 12 Pages	səs		Exhi	Exhibit R-3 (PE 0305911F)	0305911F)	

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RD	RDT&E PROGRAM EL	RAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	OJECT	COST B	REAKDO	JWN (R-	3)	DATE	February 1997	797
BUDGET ACTIVITY 7 - Operational System Developmer	l System De	velopmen	±		PE NUMBER AN 0305911F		oddnS es	р πп.Е Defense Support Program (Space)	n (Space)		PROJECT 3624
Contractor or Government Performing <u>Activity</u> *EAC is also	Contract Method/Type or Funding Vehicle funded by	Award or Obligation <u>Date</u> other	Performing Activity EAC appropriations	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Various MIPRs Aerojet CPFF Aerojet/ FFP M	ment Organizati MIPRs CPFF FFP	<u>ons</u> May 96	1,305	1,305	5,956 1,305 197	345	5,378				1,305
Aerospace Corp Other Gov't Cost * TRW TRW Onsolidated PRC SPARTA	MORD CPFF CPAF FPIF CPAF MORDs	May 96 Apr 94 Aug 94			37,673 17,913 9,120 4,839 13,325	3,696 2,683 752 1,047 1,718	740 1,690 2,315	800 11,485	800 5,000	3,200	46,909 37,081 9,872 1,690 8,201 15,043
*Note: HQ AFMC Space Systems Support Group (SSSG) for Year 2000 software development <u>Test and Evaluation Organizations</u> Not Applicable.	oace Systems Sul Organizations	pport Group (\$	SSSG) for Year 20	000 software	development						
Project 3 <i>6</i> 24				Page	Page 11 of 12 Pages	es		EX	Exhibit R-3 (PE 0305911F)	3305911F)	

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RDT&E PROGRAM	ROGRAM EL	-EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-	<u> </u>	DATE F.	February 1997	266
BUDGET ACTIVITY 7 - Operational System Developmen	n Developme	nt	PE NUMBER AND TITLE 0305911F Defen	AND TITLE F Defen:	PE NUMBER AND TITLE 0305911F Defense Support Program (Space)	t Program	ו (Space)		РВОЈЕСТ 3624
(U) B. Budget Acquisition History and Planning Information Continued	listory and Planni		(\$ in Thousands)						
Government Furnished Property:	erty:								
Contract Method/Type Item or Funding Description Vehicle	Type Award or ng Obligation <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property SRSU FFIF/CPAF	- AF 1989								
Support and Management Property Not Applicable Test and Evaluation Property Not Applicable	<u>verty</u>								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation Adjustment	nent		1,535,219 266,681	14,746 10,241 3,720	5,797 10,123	1,800	25,544 5,800	110,900 3,200	1,694,006 308,330 3,720
Project Total			1,801,900	28,707	15,920	14,085	31,344	114,100	2,006,056
Project 3624		Pag	Page 12 of 12 Pages	ses.		Exh	Exhibit R-3 (PE 0305911F)	0305911F)	
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PE NUMBER: 0305913F

UNCLASSIFIED

PE TITLE: NUDET Detection System (Space)

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	ţ		PE NI 030	PE NUMBER AND TITLE 0305913F NUDI	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	tection	System (Space)	P 2	РRОЈЕСТ 2808
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2808 Nuc Detonation Det Sys (Sensors)	12,064	13,018	14,145	14,982	14,003	13,023	13,014	15,258	160,906	293,676
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
أداما المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل المتعادل										

(U) A. Mission Description and Budget Item Justification

The Nuclear Detonation (NUDET) Detection System (NDS) consists of space, control, and user equipment segments. The space segment consists of NUDET detection (ICADS). The user equipment segment consists of the Ground NDS Terminals (GNT). The NDS provides a worldwide, highly survivable capability to detect, locate, and report any nuclear detonations in the earth's atmosphere or near space and in near real time. The NDS supports NUDET detection requirements for AFSPC (Integrated Tactical Warning and Attack Assessment [ITWAA]), USSTRATCOM (Nuclear Force Management), and AFTAC (Treaty Monitoring). NDS is classified sensors on the GPS satellites. The control segment consists of ground control hardware and software known as the Integrated Correlation and Display System Budget Activity 7, Operational Systems Development, because it is a post-Milestone 3 program.

(U) FY 1996 (\$ in Thousands)

- Continue NDS Electomagnetic Pulse (EMP) Sensor on-orbit qualification Continue ICADS and GNT development (U) \$8,010 (U) \$924
- Continue system engineering and program management for ICADS, GNT and Advanced Radiation Detection Unit (ARDU) (U) \$1,196
 - Continue mission support requirements (U) \$1,934
 - Total (U) \$12,064

(U) FY 1997 (\$ in Thousands)

- Continue ICADS and GNT development (U) \$10,898
- Continue system engineering and program management for ICADS, GNT and ARDU Continue EMP sensor on-orbit qualification (U) \$953 (U) \$925

 - Continue mission support requirements (U) \$242
 - Total (U) \$13,018

- Continue ICADS and GNT development (U) FY 1998 (\$ in Thousands) (U) \$11,941 Continue ICAD
- Continue EMP sensor on-orbit qualification 096\$ (D)

Project 2808

Page 1 of 5 Pages

Exhibit R-2 (PE 0305913F)

RDT&E BUDGET ITEM JUST	IFICATIO	N SHEET	EM JUSTIFICATION SHEET (R-2 Exhibit)	it)	DATE February 1997	907
⊓√ ional System Developmen		PE NUMBER AND TITLE 0305913F NUDI	NUDET De	DE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	en lagi	PROJECT
 (U) \$989 Continue system engineering and program management for ICADS, GNT and ARDU (U) \$255 Continue mission support requirements (U) \$14,145 Total 	nagement for I	CADS, GNT an	1 ARDU			
 (U) FY 1999 (\$ in Thousands) (U) \$12,709 Continue ICADS and GNT development (U) \$981 Continue EMP sensor on-orbit qualification (U) \$1,024 Continue system engineering and program management for ICADS, GNT and ARDU (U) \$268 Continue mission support requirements (U) \$14,982 Total 	nagement for 10	CADS, GNT an	1 ARDU			
(U) Acquisition Strategy:						
The NDS Acquisition Strategy is to develop and procure components to sustain the NDS capability for the GPS satellites.	onents to susta	iin the NDS capa	bility for the GP	S satellites.		
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 12,154 13,277	FY 1997 13,623 13,623	FY 1998 9,869	FY 1999 6,144		
a. Cong Gen Reductions b. SBIR	- 260	-304 -301				
 Commons of Oner Above Threshold Reprogramming Below Threshold Reprogramming Rescision Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget 	-9 -216 12,064	13,018	4,276	8,838 14,982		
(U) Change Summary Explanation: Funding: Adjustments to FY98 (4,276) and FY99 (8,838). Schedule: No Changes Technical: No Changes	reflect a realign	ment of funds to	more closely ap	FY99 (8,838) reflect a realignment of funds to more closely approximate programmatic requirements.	tic requirements.	
Project 2808	Pag	Page 2 of 5 Pages		Exhib	Exhibit R-2 (PE 0305913F)	
		1734				

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICAT	NOI SH	EET (R	-2 Exhil)ji		DATE Feb	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NU 030	PE NUMBER AND TITLE 0305913F NUDI	TILE UDET De	PENUMBER AND TITLE 0305913F NUDET Detection System (Space)	ystem (Space)	2 2	PROJEСТ 2808
(U) C. Other Program Funding Summary (S in)	n Thousands)								Ę	Total
(II) Operations & Maintenance	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002 9 252	FY 2003	Comp1	Cost
(U) Missile Procurement (U) Other Procurement	18,502 5,580	4,081 2,085	1,194	3,012 1,313	1,615	1,534	1,569 3,513	1,608	15,059 22,264	174,059
Related RDT&E: (U) PE #305165F, NAVSTAR GPS (Space/Ground Segment) (U) PE #604480F, GPS Block IIF (U) PE #305911F, Defense Support Program	1 Segment)									
(U) D. Schedule Profile										
-	FY 1996 2 3	4	1 2 년	$\frac{\text{FY 1997}}{2}$	4	FY 1998 2 3	3 88 4	_	FY 1999 2 3	4
(U) ICADS Milestones & Program										
(U) Build 5 System Req Review (SRR) (U) Build 5 System Design Review (SDR)			×		×					
(U) Build 5 Preliminary Design Review (PDR)								×		
(U) Build 5 Critical Design Review										×
(U) Build 4B Acceptance test (AT)						×				
(U) GNT Milestones & Program Events					;					
(U) Phase II GN I Delivery (U) Phase I Initial OT&E					×	×				
(U) Phase III PDR (U) Phase III CDR									×	×
Project 2808			Page 3 of 5 Pages	5 Pages			Exhib	Exhibit R-2 (PE 0305913F)	305913F)	

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RE	RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	M ELEM	NT/PRO.	JECT CC	ST BRE	AKDOV	VN (R-3)		DATE Fel	February 1997	16
BUDGET ACTIVITY 7 - Operation	зирдет АСТІVITY 7 - Operational System Development	pment		1d 0	PE NUMBER AND TITLE 0305913F NUDET Detection System (Space)	DTITLE NUDET ()etection	System (Space)	14 S	РРОЈЕСТ 2808
(U) A. Project C	(U) A. Project Cost Breakdown (\$ in Thousan	housands)	:								
				FY 1996	FY 1997		FY 1998	FY 1999			
	neering			686	1,013	e (1,277	1,065			
(U) Software Development	elopment			6,016 700	6,472	7 0	6,578	8,460			
	jiaue S			2,700 1,247	3,000	2 6	3,373 1,534	2,928			
(U) Technical Data	ta			86	92	2	153	133			
(U) Development	Development Test & Evaluation			792	791	- (921	799			-
(U) Frogram Management Support (U) Total	agement Support			247 12,064	263 13,018		307 14,145	266 14,982			
(U) B. Budget Acquisition Performing Organizations:	(U) B. <u>Budget Acquisition History and Planni</u> Performing Organizations:	Planning Info	ng Information (\$ in Thousands)	[housands]							
Contractor or Government Performing Activity	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligatio n <u>Date</u>	Performin g Activity <u>EAC</u>	Project Office EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations ICADS:	ent Organizations										
Sandia Labs	MIPR* Time & Materials	Jan 96 Dec 95	Cont	Cont	10,994	6,100	9,782	10,502	12,709	195,587	245,674 Cont
GNT: Sandia Labs	MIPR*	Jan 96	Cont	Cont	7.218	1,910	1116	1 439	c	c	11 683
Intermetrics	CPFF	Dec 93	1,262	1,262	999	0	0	0	0	0	999
SAIC	Time & Materials	Dec 95	Cont	Cont	0	399	318	330	341	3,353	4,741
SAIC	Time & Materials	Dec 95	Cont	Cont	0	398	317	329	341	3,352	4,737
Project 2808				Page 4	Page 4 of 5 Pages			Exhib	Exhibit R-3 (PE 0305913F)	305913F)	
				•	1736						

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RDT&E P	RDT&E PROGRAM ELEMENT/PROJECT	MENT/PRO.		ST BR	AKDOV	COST BREAKDOWN (R-3)		DATE Fe	February 1997	97
вироет Астіvіту 7 - Operational System Development	m Development		a o	PE NUMBER AND TITLE 0305913F NUD	NUDET I	D TITLE NUDET Detection System (Space)	System (Space)	2 0	PROJECT 2808
Contractor or Contract Government Method/Type or Performing Funding Vehicle	Type or Award or Vehicle Obligatio n Date	or Performin o g Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
AALF: SAIC Time & N. V. Sensor Sunnort:	Time & Materials Dec 94	198	861	198	0	0	0	0	0	198
W-Sensor Support: SRI C/CPFF Los Alamos MIPR* Mission Multiple Sandia Labs MIPR*	Aug 94 Jan 96 N/A Oct 94	415 Cont Cont 399	415 Cont Cont	415 1,367 952 399	0 924 1,934	0 925 242 0	0 960 255 0	0 981 268 0	0 5,560 5,009 0	415 10,717 8,660 399
litary In <u>Manage</u> ole.	tmental Purchase Reque				•					
Test and Evaluation Organizations Not Applicable.	tions									
Subtotal Product Development Subtotal Support and Management	ıt ment			23,263	12,064	13,018	14,145	14,982	216,204	293,676
Subtotal lest and Evaluation Total Project				23,263	12,064	13,018	14,145	14,982	216,204	293,676
Project 2808			Page 5	Page 5 of 5 Pages			Exhib	Exhibit R-3 (PE 0305913F))305913F)	

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PE NUMBER: 0305917F

UNCLASSIFIED

PE TITLE: DoD Space Architect (Space)

RDT&E BUDGET ITE	ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)	TIFICAT	HS NOI.	EET (R	-2 ЕХНІ	BIT)		DATE Fel	February 1997	97
вироет астилту 7 - Operational System Development			DE 01	PE NUMBER AND TITLE 0305917F DoD	TITLE OD Spac	PENUMBER AND TITLE 0305917F DoD Space Architect (Space)	ect (Spac	(e)		РРОЈЕСТ 2677
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2677 Space Architect	0	0	14,590	14,590	14,566	14,541	14,821	15,287	0	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

programs, and achieves efficiencies in acquisition and future operations through program integration, thus improving space support to military operations. The OSA obtains (U) A. Mission Description and Budget Item Justification - The Under Secretary of Defense (USD) for Acquisition and Technology (A&T) established the DoD Office Congressional concerns regarding DoD space management. The DoD OSA integrates space architectures and systems, eliminates unnecessary vertical stovepiping of of the Space Architect (OSA) to consolidate responsibilities for DoD space missions and system architecture development into a single organization in response to development. This program is in Budget Activity 7 because the ongoing design effort affects facets of all space systems and their acquisition and design strategies. direct support from various space planning and development organizations across the federal government and industry for DoD space architecture planning and Note: All funding transferred from PE 63855F for FY 1998 - 2003 to consolidate R&D and O&M appropriations into one Program Element.

(U) Acquisition Strategy: RDT&E funds will be used to obtain infrastructure support and direct support from various space planning and development organizations across the DoD and industry. This includes FFRDCs and contracted System Engineering and Technical Assistance (SETA) in direct support of DoD space architecture planning and development. Funds will be applied to existing contract vehicles.

- As primary support, the DoD Space Architect proposes to use two existing SMC contracts for technical support:
 - Engineering, Analysis, Design and Development (EADD) Contract; Nichols Research Corporation
 - -- Engineering, Analysis and Design (EAD) Contract; Nichols Research Corporation
- These contracts currently provide support to the Air Force Space and Missile Systems Center long-range planning, conceptual development, and engineering analysis and assessment efforts.
- FY 1996 (\$ in Thousands): 5
- Program funded in PE 63855F \$ (£) (£)
 - Total
- (U) FY 1997 (\$ in Thousands):
- Program funded in PE 63855F \$0
 - 99

Page I of 5 Pages

Project 2677

Exhibit R-2 (PE 0305917F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 EXHIBIT)	SHEET (R	-2 EXHIBI	F	DATE February 1997	1997
вирсет Астилт 7 - Operational System Development	PE NUMBER AND TITLE 0305917F DoD	TITLE JoD Space	PE NUMBER AND TITLE 0305917F DoD Space Architect (Space)		PROJECT 2677
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$240 MILSATCOM - (U) \$378 Space Control - (U) \$540 Satellite Operations - (U) \$1,700 Position Navigation - (U) \$1,700 Environmental Sensing - (U) \$1,000 Communications Study - (U) \$2,800 Missile Warning - (U) \$2,742 Advanced Weather - (U) \$1,390 In-House Support - (U) \$1,390 Total					·
(U) FY 1999 (\$ in Thousands): - (U) \$14,590 Architecture studies and documentation - (U) \$14,590 Total					
(U) B. <u>Program Change Summary (\$ in Thousands)</u> FY 1996	FY 1997	FY 1998	FY 1999		
evious President's Budget propriated Value justments to Appropriated Value Cong Gen Reductions SBIR	0	0	0		
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	0	14,590 14,590	14,590 14,590		
 (U) Change Summary Explanation: Funding: Reflects realignment of funding from PE 63855F in FY98 President's Budget. Schedule: None Technical: None 	dent's Budget.				
Project 2677	Page 2 of 5 Pages		Ш	Exhibit R-2 (PE 0305917F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	CATION SHEET	(R-2 Exhibit)	DATE February 1997	
вирдет Астилтү 7 - Operational System Development	PE NUMBER AND TITLE 0305917F DoD	PE NUMBER AND TITLE 0305917F DoD Space Architect (Space)	PROJECT 2677	Į.
(U) C. Other Program Funding Summary (\$ in Thousands) FY 1996 FY 1997 FY 1998 (U) N/A	8 FY 1999 FY 2000	FY 2001 FY 2002 FY 2003	To Compl Total Cost	
(U) D. <u>Schedule Profile</u> 1 2 3 (U) N/A	FY 1997 4 1 2 3	FY 1998 4 1 2 3 4	FY 1999 1 4	
Project 2677	Page 3 of 5 Pages	Exhibi	Exhibit R-2 (PE 0305917F)	

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RE	RDT&E PROGRAM EL		EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKD(JWN (R-:	3)	DATE	February 1997	6
BUDGET ACTIVITY 7 - Operation	- Operational System Developmer	evelopmen	14		PE NUMBER AN 0305917F		pace Arch	р тге DoD Space Architect (Space)		14 Z	РВОЈЕСТ 2677
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown (S in Thousand	<u>8</u>	FY 1996		FY 1997	FY 1998	FY 1999			
MILSATCOM Space Control Satellite Operations Position Navigation Environmental Sensing Communications Study Missile Warning Advanced Weather In-House Support	s n sing tudy			0		0	240 378 540 3,800 1,700 1,000 2,800 2,742 1,390 14,590	TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD			
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	equisition Histor	y and Planning	, Information	ı (\$ in Thousand	(হা						
Contractor or Contract Government Method Performing or Fund	nizations: Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations None	ent Organizations	ωl			0	0	0	0	0	Cont	Cont
Support and Management Organizations Aerospace CPAF TASC CPAF ANSER CPFF Mitte CPAF EAD CPAF EADD	gement Organizat CPAF CPAF CPFF CPAF CPAF	tions 1993 Sept 1994 1993 Feb 1997 Feb 1997			0	0	0	1,400 TBD 576 938 5,200 5,400	18D 18D 18D 18D 18D 18D	Cont Cont Cont Cont Cont	Cont Cont Cont Cont
Project <u>2</u> 677				Pag	Page 4 of 5 <u>P</u> ages	es		Exhi	Exhibit R-3 (PE 0305917F)	0305917F)	
					1740						

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RDT&E PROGRAM EI	GRAM EL	LEMENT/PROJECT	ROJEC	T COST E	COST BREAKDOWN (R-3)	OWN (R-	3)	DATE	[Ob. 1004	100
BUDGET ACTIVITY 7 - Operational System Development	Developme	Į		PE NUMBER AN 0305917F	PE NUMBER AND TITLE 0305917F DoD S	ο πημε DoD Space Architect (Space)	hitect (Sp		en uary	PROJECT
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	e Award or Obligation <u>Date</u>	Performing Activity EAC	Project Office EAC	Total Prior to FY 1996		Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to	Total
Test and Evaluation Organizations None	rat			0	0	0	0	0	Cont	Cont
Government Furnished Property: None	y: None									
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation				000	000	000	0 0 14.590	0 0 14.590	Cont	Cont
Total Project				0	0	0	14,590	14,590	Cont	Cont
Project 2677			P	Page 5 of 5 Pages	Sč		П Yh	Evhihit P.3 (DE 03060475)	13050475)	

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PE NUMBER: 0305953F

UNCLASSIFIED

PE TITLE: Evolved Expendable Launch Veh(Space)

RDT&E BUDGET IT	EM JUS	TIFICA	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	2-2 Exhi	pit)		DATE Fe	February 1997	797
BUDGET ACTIVITY 7 - Operational System Development	+		PE N 03(PE NUMBER AND TITLE 0305953F EVOIN Veh(Space)	PE NUMBER AND TITLE 0305953F Evolved Expendable Launch Veh(Space)	xpendab	le Launc	ŀ	9	PROJECT 624A
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
624A Medium Launch Vehicles	0	0	0	3,383	3,480	3,577	2,398	795	795 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. <u>Mission Description and Budget Item Justification:</u>
The Evolved Expendable Launch Vehicle (EELV) program is a space launch system development program. The purpose of this program is to replace the current fleet

The Evolved Expendable Launch Vehicle (EELV) program is a space launch system development program. The purpose of this program is to replace the current fleet (DoD, intelligence, and other government missions) through at least 2020, as defined in the National Mission Model. The first operational launch for the Medium-Lift Variant (MLV) is required by FY02 to support satellite block changes and transitions. The first operational capability for the Heavy-Lift Variant (HLV) is required by FY05 to provide for continued assured access to space following the Titan IV phaseout. The program is in Budget Activity 7 Operational System Support because it Program content includes the development of the system design, demonstrations of key technologies, modifications to industrial capability and launch facilities, and demonstration launches of both medium and heavy-lift EELV variants. The EELV family of vehicles must be capable of meeting the Government's spacelift needs nonrecurring development cost of \$2 billion, EELV is projected to save 25-50 percent over the current fleet of expendable launch vehicles during a 20 year period. supports operational deployment of a system in production.

(U) Acquisition Strategy:

facilities, workforce), and optimization of production and launch operations, processes, and rates. Development contracts will be competitively awarded. Downselect to and support efficiencies. Cost improvements will be achieved through commonality, consolidation, reduction of supporting infrastructure (launch pads, manufacturing The EELV concept of a family of launch vehicles emphasizes commonality of hardware and infrastructure and economies of scale to enhance production, operations, a single EELV contract/concept is planned at the EMD decision point (third quarter FY98). Production contracts will be sole source to the EELV EMD contractor.

- (U) FY 1996 (U) \$0
- Not Applicable. EELV was funded in PE 0603853F in FY 1996.
- (U) FY 1997 (U) \$0
- Not Applicable. EELV was funded in PE 0603853F in FY 1996.

Project 624A

Page 1 of 4 Pages

Exhibit R-2 (PE 0305953F)

RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0305953F Evolved Expendable Launch Veh(Space)	ndable Launch	РРОЈЕСТ 624А
(U) <u>FY 1998</u> - (U) \$0 Not Applicable. EELV is funded in PE 0603853F and PE 0604853F in FY 1998.	.04853F in FY 1998.		
 (U) \$3,383 Prepare for EELV Production contracts (to be awarded in FY operational satellites. (U) \$3,383 Total 	contracts (to be awarded in FY 2000) and start mission planning and non-recurring integration for initial	i non-recurring integration for initial	
(U) B. Program Change Summary (S in Thousands)			
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional General Reductions b. Small Business Innovative Research c. Omnibus or other above threshold reprogramming d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY97 PB (U) Current Budget Submit/President's Budget	FY 1998	FY 1999 +3,383 3,383	
 (U) Change Summary Explanation: Funding: FY99 funds moved from MLV PE (0305119F) as part of the Schedule: Not Applicable. Technical: Not Applicable. 	V PE (0305119F) as part of the transition from Atlas and Delta to EEL.V.	LV.	
Project 624A	Page 2 of 4 Pages	Exhibit R-2 (PE 0305953F)	
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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICAT	TION SE	IEET (R	2 Exhil) je		DATE Fel	February 1997	97
вирбет Астіvіт 7 - Operational System Development	.		PE NU 030	PE NUMBER AND TITLE 0305953F Evolv Veh(Space)	ITLE /olved E	D TITLE Evolved Expendable Launch }}	le Launc	ے	ā 9	РКОЈЕСТ 624A
(U) Missile Program Funding Summary (\$ in (U) Missile Procurement, AF (PE 030593F)	in Thousands) FY 1996	FY 1997	FY 1998	FY 1999	FY 2000 245,428	FY 2001 285,471	FY 2002 171,951	FY 2003 303,782	To Comp Cont.	Total Cont.
(U) National User (non-AF budget) Deleged BDT&E:	72,300	18,600	7,100		٦	>	ח	n	Colli.	98,000
(U) EELV EMD (PE 0603853F). (U) EELV EMD (PE 0604853F). (U) Medium Launch Vehicles (PE 0305119F). (U) Titan Space Launch Vehicles (PE 0305144F).	36,894	42,333	63,260 28,376	0 293,950	0 324,891	232,991	0 256,797	0419,280	0162,200	172,533
(U) D. Schedule Profile	FY 1996		4	FY 1997 2 3	4	FY 2	FY 1998 2 3	-	FY 1999 2 3	4
EMD Module (U) Defense Acquisition Board (U) EMD contract award (U) Tailored Critical Design Review completed No Later Than date Dec 98 (U) Low Rate Initial Production start planned for 1st quarter FY00 (U) System Test Flight #1 (MLV) planned for FY01 (U) System Test Flight #2 (HLV) planned for FY03							××	×		
Project 624A			Page 3 of 4 Pages	4 Pages			Exhibi	Exhibit R-2 (PE 0305953F)	1305953F)	
			1747							

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	DOWN (R-3		DATE February 1997
вирвет Астіvіту 7 - Operational System Development	PE NUMBER AND TITLE 0305953F Evolved Expendable Launch Veh(Space)	E Ived Expenda	able Launch	PROJECT 624A
(U) A. Project Cost Breakdown (\$ in Thousands)				
FY 1996	FY 1997	FY 1998	FY 1999	
(U) Non-recurring integration funding (U) Total			3,383 3,383	
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	S			
TBD				
Project 624A	Page 4 of 4 Pages		Fxhihit	Exhibit R-3 (DE 0305953E)
	8			

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PE NUMBER: 0401119F

UNCLASSIFIED

PE TITLE: C-5 Airlift Squadrons

RDT&E BUDGET IT	EM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	LEET (R	-2 Exhi	bit)		DATE Fe	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	lt.		PE NI	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	TITLE	Squadro	lls l			
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	1,124	9,751	14,204	0	0	0	0	0	25,079
4377 Airborne Broadcast Intelligence (ABI)	0	653	٥	0	0	0	0	0	0	653
4495 AWFCS Reliability Improvement Program	0	471	9,751	14,204	0	0	0	0	0	24,426
Quantity of RDT&E Articles	0	0	0	0	0	0	°	0	0	0

(U) A. Mission Description and Budget Item Justification

often outdated or incomplete upon arrival in theater. ABI provides increased threat situational awareness and enables aircrews to make mission modifications to avoid survivability by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. Strategic mobility requirements. This project is comprised of low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to Budget Activity 7, Operational enemy threats under rapidly changing combat conditions. To limit system implementation costs, it is envisioned that ABI will "snap-on" to any AMC mobility fleet aircrews often fly extended missions or transit enroute stations without full intelligence information capability. Information provided prior to mission departure is 4377: Airborne Broadcast Intelligence (ABI) (name change from Real-Time Information in the Cockpit (RTIC)): Airlift and Air Refueling Mission Area Plans aircraft when this capability is needed. These systems are intended to be interchangeable between KC-135, KC-10, C-141, C-5, and C-17 operational wings, as required. This project is an FY97 new start to modify and integrate previously developed intelligence communication and display equipment to meet AMC identify a deficiency in ability to protect aircraft from hostilities during combat operations. The ABI system addresses this deficiency and increases aircrew Systems Development.

Commercial-Off-The-Shelf (COTS) LRUs. This project is comprised of low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to 4495: AWFCS Reliability Improvement Program: The C-5 All-Weather Flight Control System (AWFCS) Reliability Improvement Program replaces low reliability Line Replaceable Units (LRUs) in the automatic flight control system and replaces aging mechanical instruments in the engine and flight systems. Current trends indicate some components of the existing C-5 AWFCS will be insupportable within five years. This modification redesigns the architecture of the avionics using Budget Activity 7, Operational Systems Development.

Page 1 of 12 Pages

Exhibit R-2 (PE 0401119F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	£	DATE Fabrillary 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5 A	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	quadrons	1601 Kipping
(U) Acquisition Strategy:				
Airborne Broadcast Intelligence (ABI): The intended acquisition strategy for ABI is to make maximum use of existing software and non-developmental hardware currently under development.	r ABI is to make	maximum use o	existing softwar	e and non-developmental hardware
AWFCS Reliability Improvement Program: The acquisition strategy for the program is to establish a single integrating contractor to: modify and qualify individual COTS LRUs and software to meet C-5 performance requirements; update existing C-5 engineering and technical data; develop interface control specifications based on performance requirements; prototype the new system; and support ground and flight testing.	orogram is to esta sting C-5 enginee d flight testing.	blish a single int ring and technic	egrating contract al data; develop i	The acquisition strategy for the program is to establish a single integrating contractor to: modify and qualify individual mance requirements; update existing C-5 engineering and technical data; develop interface control specifications based on system; and support ground and flight testing.
(U) B. Program Change Summary (\$ in Thousands)				
(U) Previous President's Budget (U) Appropriated Value (II) Adjustments to Appropriated Value	FY 1997 1,153 1,153	FY 1998 3,533	<u>FY 1999</u> 1,831	Total Cost 6,517
a. Cong/General Reductions b. SBIR	-24 -5	-39	-73	-141
d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	1,124	6,257 9,751	12,446 14,204	18,703 25,079
(U) Change Summary Explanation: Funding: FY97 funds have been reduced by \$29K for Congressional/general reductions. General reductions totaled \$39K in FY98 and \$73K in FY99. Addition of \$6,257K in FY98 and \$12,446K in FY99 based upon actual costs in similar but less complex C-141 AWFCS program.	ral reductions. Gonr but less comple	eneral reductions x C-141 AWFC	s totaled \$39K in S program.	FY98 and \$73K in FY99. Addition of
Schedule: New Program Start for C-5 AWFCS in FY97.				

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Exhibit R-2 (PE 0401119F)

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	IFICA	TION SE	IEET (R	-2 Exhil	bit)		DATE Feb	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development			PE NU 040	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	TILE -5 Airlift	Squadro	Su			
Technical: N/A (U) C. Other Program Funding Summary (\$ in Thousands)	Thousands)	į								
THE PROPERTY OF CO.	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
(U) FEH 040113F/C-5 SQUARTOILS Aircraft Procurement, AF, BA-7,C-5 Mods, ABI Aircraft Procurement, AF, BA-5,C-5 Mods, AWFCS	0 0	0 0	1,518	1,433 0	1496 44,761	1528 44,442	1379 67,729	1345 48,680	0 90,430	8,699 296,042
(U) <u>PE# 0401218F/KC-135 Squadrons</u> RDT&E, AF, BA-7 Aircraft Procurement, AF, BA-7, KC-135 Mods, Apr	0	715	0 1,525	01,512	0	0 1,530	0 1,564	0	0 TBD	715 TBD
Operations & Maintenance, AF, BA-2	0	0	1,000	1,019	1,050	1,071	1,091	TBD	TBD	5,231
(U) D. <u>Schedule Profile</u>	FY 1996 2 3	4	다	FY 1997 2 3	4	FY 1998 2 3	88 E		FY 1999 2 3	4
(U) Airborne Broadcast Intelligence (U) AWFCS Reliability Improvement	See Individu	al Project R	t-2 Exhibits	See Individual Project R-2 Exhibits for Schedule Profiles	Profiles					
			Page 3 of 12 Pages	2 Pages			Exhib	Exhibit R-2 (PE 0401119F)	t01119F)	

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	JEET (F	?-2 Exhi	bit)		DATE	February 4007	297
BUDGET ACTIVITY 7 - Operational System Development	nt		PE NI 040	PE NUMBER AND TITLE 0401119F C-5 A	TITLE	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	su		oldary .	PROJECT 4377
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4377 Airborne Broadcast Intelligence (ABI)	0	653	0	0	0	0	0	0	0	653
(U) A. Mission Description and Budget Item Justification 4377: Airborne Broadcast Intelligence (ABI): Airlift and Air Refueling Mission Area Plans identify a deficiency in ability to protect aircraft from hostilities during combat operations. The ABI system addresses this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full intelligence information provided prior to mission departure is often outdated or incomplete upon arrival in theater. ABI provides increased threat situational awareness and enables aircrews to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system implementation costs, it is envisioned that ABI will "snap-on" to any AMC mobility fleet aircraft when this capability is needed. These systems are intended to be interchangeable between RC-135, RC-10, C-141, C-5, and C-17 operational wings, as required. This project is an FY97 new start to modify previously developed intelligence communication and display equipment to meet AMC requirements. This project is comprised of low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to Budget Activity 7, Operational Systems Development.	ustification A rilift and Air Refueling Mission Area Plans this deficiency and increases aircrew survival ance information. Strategic mobility aircrews of ion provided prior to mission departure is often ews to make mission modifications to avoid en 31 will "snap-on" to any AMC mobility fleet ai 141, C-5, and C-17 operational wings, as requipment to meet AMC requirements. This project Activity 7, Operational Systems Development.	Vir Refueling Sy and incres on. Strategia rior to missi nission modi: n" to any Al C-17 operati AMC requir erational Sy	g Mission An uses aircrew c mobility ai on departure fications to a VIC mobility onal wings, ements. Thi	rea Plans ide survivabiliti ircrews often s is often out avoid enemy ffleet aircrai as required. is project is o	whifty a defice y by providing a fly extende tidated or incomparts und it when this of This project comprised or	this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft from hostilities during this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission equipmen information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full no provided prior to mission departure is often outdated or incomplete upon arrival in theater. ABI provides increased to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system will "snap-on" to any AMC mobility fleet aircraft when this capability is needed. These systems are intended to be 11, C-5, and C-17 operational wings, as required. This project is an FY97 new start to modify previously developed nent to meet AMC requirements. This project is comprised of low technical risk efforts supporting fielded weapons citivity 7, Operational Systems Development.	ity to protectiff to protable receivable receivable in arrival in tanging combanged. The needed. The new start to cal risk effor	t aircraft fron t, on-aircraft, uute stations heater. ABI oat condition ese systems a modify prev rts supporting	m hostilities, mission eq without full provides in is. To limit are intended viously deve g fielded we	during Lipment to reased system to be loped apons
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$ N/A - (U) \$0 Total										
(U) FY 1997 (\$ in Thousands): - (U) \$588 Engineering study/analysis; prototype development, modification, retrofit, and qualification/certification testing. - (U) \$ 65 Mission support - (U) \$653 Total	sis; prototype	developmen	t, modificati	ion, retrofit,	and qualific	ation/certific	ation testing			
(U) FY 1998 (\$ in Thousands): - (U) \$ N/A - (U) \$0 Total										
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$ N/A - (U) \$0 Total										
Project 4377			Page 4 of 12 Pages	2 Pages			Exhibit	Exhibit R-2 (PE 0401119F)	401119F)	

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	2-2 Exhi	lbit)		DATE	Fohrusey 4007	1
BUDGET ACTIVITY 7 - Operational System Development	ıt.		PE N	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	TITLE >-5 Airlift	Squadro	Suc	5	E 4	PROJECT
(U) B. Program Change Summary (\$ in Thousands)	(spui									
(U) Previous President's Budget (U) Appropriated Value		FY 1996 0		FY 1997 672	FY 1998	FY 1999 0	0	Total Cost 672		
(U) Adjustments to Appropriated Value a. Cong/Gen Reductions b. SRIR		-		0 -14 -14	0		0	-19		
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	gram 'B		0 0	-5 0 653	0 0		0	653		
(U) Change Summary Explanation: Funding: FY97 funds have been reduced by \$14K by Congressional and general reductions and \$5k for SBIR.	/ \$14K by Cc	ngressional	and general	reductions a	ınd \$5k for §	BIR.				
Schedule: N/A										
Technical: N/A										
(U) C. Other Program Funding Summary (S in T	in Thousands)									
(U) <u>PE# 040119F</u> /C-5 Squadrons	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
Aircraft Procurement, AF, BA-7, C-5 Mods, ABI (U) PE# 0401218F/KC-135 Squadrons	0	0	1,518	1,433	1,496	1,528	1,379	1,345	0	8,699
RDT&E, AF, BA-7, ABI Aircraft Procurement, AF, BA-7, KC-135 Mods, ABI	0 0	715 0	0 1,525	01,512	0 1,572	0 1,530	0 1,564	0 1525	0 TBD	715 TBD
Operations & Maintenance, AF, BA-2, ABI	0	0	1,000	1,019	1,050	1,071	1,091	TBD	TBD	TBD
Project 4377			Page 5 of 12 Pages	2 Pages			Exhibil	Exhibit R-2 (PE 0401119F)	01119F)	

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RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	PROJECT 4377
(U) D. Schedule Profile 1 EY 1996 (U) Program Office Startup (U) AOA/RDT&E Studies Complete (U) Prototype Demo (U) Initial Delivery	FY 1997 X X X X X X	FY 1999 1 2 3 4
Project 4377	Page 6 of 12 Pages	Exhibit R-2 (DE 0401119E)

RD	RDT&E PROGRAM EL	3RAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTE	REAKD	OWN (R.	3)	DATE	February 1007	700
BUDGET ACTIVITY 7 - Operational System Developme	il System D	evelopme			PE NUMBE 040111	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	irlift Squa	drons		ebildaly 1	PROJECT
(U) A. Project Cost Breakdown (\$ in Thousands)	st Breakdown (S in Thousan	ds)								
 (U) Eng study/analysis; prototype development & (U) Mission support (U) Total 	sis; prototype d	evelopment &	testing	FY 1996 0 0	·	FY 1997 588 65 653	FY 1998 0 0	FY 1999 0 0 0	Ø 000		
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	uisition Histor	y and Plannin	ig Informatio	n (\$ in Thousan	(spi						
Performing Organizations:	zations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget <u>FY 1997</u> 653	Budget FY 1998 0	Budget <u>FY 1999</u> 0	Budget to Complete TBD	Total Program TRD
Product Development Organizations ESC	nt Organizations										
Support and Management Organizations SA-ALC	ment Organizatı	ions									
Test and Evaluation Organizations	Organizations										
Project 4377				Pag	Page 7 of 12 Pages	es		Exhi	Exhibit R-3 (PE 0401119F)	0401119F)	

RDT&E PROGRAM ELI		PROJE	CT COS	EMENT/PROJECT COST BREAKDOWN (R-3)	AKDOW	N (R-3)		DATE EA	Fohriism, 1007	707
BUDGET ACTIVITY 7 - Operational System Developmen	1		PE N	PE NUMBER AND TITLE 0401119F C-5 A	тпе 2-5 Airlift	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	suc		A A	PROJECT 4495
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4495 AWFGS Reliability Improvement Program	0	471	9,751	14,204	0	0	0	0	0	24,426
(U) A. Mission Description and Budget Item Justification 4495: AWFCS Reliability Improvement Program: The C-5 All-Weather Flight Control System (AWFCS) Reliability Improvement Program replaces low reliability Line Replaceable Units (LRUs) in the automatic flight control system and replaces aging mechanical instruments in the engine and flight systems. Current trends indicate some components of the existing C-5 AWFCS will be insupportable within five years. This modification redesigns the architecture of the avionics.	ram: The C-fitic flight con	All-Weath rol system a l be insuppo	er Flight Cor nd replaces rtable within	ntrol System aging mecha i five years.	(AWFCS) F mical instrur This modifi	Reliability Im nents in the e cation redesi	provement F engine and fl gns the archi	Program replaight systems	aces low reli c. Current tre e avionics.	ability ends
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$ N/A - (U) \$0 Total										<u></u>
(U) FY 1997 (\$ in Thousands): - (U) \$436 Contractor Technical Sup (U) \$ 35 Mission Support - (U) \$471 Total	pport									
(U) FY 1998 (\$ in Thousands): - (U) \$1,574 System Engineering (U) \$3,303 Hardware Design (U) \$4,089 Software Development (U) \$ 171 Design Data (U) \$ 614 Program Management (U) \$9,751 Total										·
Project 4495			Page 8 of 12 Pages	12 Pages			Exhibit	Exhibit R-3 (PE 0401119F)	401119F)	
		:								

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	8-2 Exhib	īt	DATE February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401119F C-5 Airlift Squadrons	TITLE 2-5 Airlift S	quadrons	PR(РКОЈЕСТ 4495
(U) FY 1999 (\$ in Thousands): - (U) \$ 1,629 System Engineering - (U) \$ 1,812 Software Design - (U) \$ 1,812 Software Development - (U) \$ 1,34 Design Data - (U) \$ 1,340 Program Management - (U) \$ 1,710 Prototype Fab/Install - (U) \$ 5,326 System Test and Evaluation - (U) \$ 1,273 Pre-Production Fab - (U) \$ 1,274 Total				·	
(U) Previous President's Budget (U) Appropriated Value	FY 1997 481 481	$\frac{\text{FY } 1998}{3,533}$	<u>FY 1999</u> 1,831	Total <u>Cost</u> 5,845	
ropriated Value tions	0 01-	-39	-73	-122	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB	0 471	+6,2 <i>57</i> 9,751	+12,446	+18,703 24,426	
(U) Change Summary Explanation: Funding: FY97 includes \$10K of Congressional reductions. General reductions include \$39K in FY98 and \$73K in FY99. Additions of \$6,257K in FY98 and \$12,446K in FY99 required because FY97 Budget was based upon the similar but less complex C-141 upgrade because detailed estimates were available. Detailed estimates were completed in Apr 96 and revealed the need for additional funding based on increased complexity of the integration effort.	ductions include \$3 milar but less com funding based on in	9K in FY98 an slex C-141 upgi ncreased compl	d \$73K in FY99. rade because deta exity of the integ	Additions of \$6,257K in FY98 iled estimates were available. Lation effort.	8 and Oetailed
Schedule: New Program Start					
Project 4495	Page 9 of 12 Pages		ш	Exhibit R-2 (PE 0401119F)	

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RDT&E BUDGET ITE	EM JUSTIFICATION SHEET (R-2 Exhibit)	-ICAT	NO SH	EET (R	-2 Exhit	oit)		DATE	Fobrusa, 4007	3
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0401	PE NUMBER AND TITLE 0401119F C-5 A	TLE 5 Airlift	DTITLE C-5 Airlift Squadrons	us		ig 4	99/ PROJECT 4495
Technical: New Program Start										
(U) C. Other Program Funding Summary (\$ in Th	Thousands)									
040119F/C-5 Squadrons Procurement, AF, BA-5, C-5 Mods,	FY 1996 EY	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	Compl	Total Cost
AWFCS							11.	10,000	70,450	290,042
(U) D. Schedule Profile										
(U) Acquisition Strategy (U) Draft RFP (U) Final RFP (U) Installation Start (FY01/3) (U) Installation Complete (FY06/2)	FY 1996 2 3	4	1 2 X X	EY 1997 2 3 X X	4 X	EY 1998	<u>∞</u> ε	1 3	FY 1999 2 3	4
Project 4495		Pe	Page 10 of 12 Pages	Pages			Exhibit	Exhibit R-2 (PE 0401119F)	01119F)	

RDT&E PROGRAM E	SRAM EL	EMENT/	EMENT/PROJECT		REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	97
BUDGET ACTIVITY 7 - Operational System Developme	evelopme	ınt		PE NUMBE 040111	PE NUMBER AND TITLE 0401119F C-5 A	PENUMBER AND TITLE 0401119F C-5 Airlift Squadrons	drons		4	PROJECT 4495
(U) A. Project Cost Breakdown (\$ in Thousan	's in Thousan	<u>(spi</u>								
			FY 1996		FY 1997	FY 1998	FY 1999	61		
(U) System Engineering				0	0	1,574	1,629	6		
				0	0	3,303	086	0		
(U) Software Development				0	0	4,089	1,812	2 .		
(U) Prototype Fab/Install				.	>	I/I	134	. -		
				0	0	614	1.710			
(U) System Test and Evaluation				0	0	0	5,326			
				0	0	0	1,273			
(U) Contractor Technical Support				0	436	0	`	0		
				0	35	0	0	•		
(U) Total				0	471	9,751	14,204	-		
(U) B. Budget Acquisition History and Planni	y and Plannin	g Information	ng Information (\$ in Thousands)	(spi						
Performing Organizations:										
or or nent ing	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
Activity Vehicle	Date	<u>EAC</u>	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Product Development Organizations SA-ALC/LA FFP	s Jan 98					471	9,751	14,204	0	24,426
Support and Management Organizations SA-ALC/LA	ions									
Project 4495			Pa	Page 11 of 12 Pages	sasi		EXH	Exhibit R-3 (PE 0401119F)	0401119F)	

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R	RDT&E PROGRAM	SRAM EL		EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKD	OWN (R-	<u>6</u>	DATE	February 1007	200
BUDGET ACTIVITY 7 - Operation	вирсет Астіvіту 7 - Operational System Development	evelopmer	<u></u>		PE NUMBER AN 0401119F	PE NUMBER AND TITLE 0401119F C-5 A	DTITLE C-5 Airlift Squadrons	drons		coluary .	PROJECT
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Test and Evaluation Organizations AFOTEC	on Organizations										
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	equisition Histor	y and Plannin	g Information	Continued (\$	in Thousands	æ					
Government Furnished Property:	nished Property:										
Item <u>Description</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Delivery <u>Date</u>		Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property N/A	ent Property										
Support and Management Property N/A	gement Property										
Project 4495				ć	G 613-61						
				rag	rage 12 of 12 Pages	ies.		Exh	Exhibit R-3 (PE 0401119F)	0401119F)	

PE NUMBER: 0401130F

UNCLASSIFIED

PE TITLE: C-17 Program

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	HEET (R	t-2 Exhi	bit)		DATE Fet	February 1997	197
вирсет Астилт 7 - Operational System Developmen	<u>.</u>		PE NI 040	PE NUMBER AND TITLE 0401130F C-17	PE NUMBER AND TITLE 0401130F C-17 Program	ram			<u>а</u> М	PROJECT 2569
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2569 C-17 Program	71,956	71,774	71,774 113,605	202,344		172,137 167,240	82,599	84,405	0	0 6,627,754
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	1*
1 . 1										

FY96 RDT&E funding is under PE 64231F in Budget Activity 5, EMD

* Aircraft T-1, FY87 Funded

(U) A. Mission Description and Budget Item Justification

both strategic and theater environments. The C-17 provides a vast increase in overall airlift capability necessary to replace and exceed the capabilities lost from retiring retrograde, and combat redeployment. The C-17 can perform the entire spectrum of airlift missions and is specifically designed to operate effectively and efficiently in forces in support of national objectives. Specific tasks associated with the airlift mission include deployment, employment (airland and airdrop), sustaining support, strategy and constitutes the most responsive means of meeting U.S. mobility requirements. Additional airlift capability is needed for rapid deployment of combat Airlift provides essential flexibility when responding to contingencies on short notice anywhere in the world. It is a major element of America's national security the aging C-141 fleet from the Air Force inventory. The C-17 is capable of performing the airlift mission well into the 21st century.

producibility and performance improvements to support full-rate production and increase the operational capability of the C-17 through programmed modifications. This program element is budgeted in Budget Activity 7, Operational System Development, because the program has completed Milestone III and is continuing

(U) FY 1996 (\$ in Thousands):

- (U) \$7,100 3rd life durability test
- (U) \$45,550 Continue product improvement development & testing
 - (U) \$5,400 T-1 refurbishment
- (U) \$13,906 Producibility Enhancement/Performance Improvement (PE/PI) Government flight test
 - (U) \$71,956 Total

Project 2569

Exhibit R-2 (PE 0401130F)

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Page I of 6 Pages

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401130F C-17 Program	PROJECT 2569
(U) FY 1997 (\$ in Thousands): - (U) \$65,474 Continue product improvement development & testing - (U) \$1,300 3rd life durability test - (U) \$5,000 PE/PI Government flight test - (U) \$71,774 Total		
(U) FY 1998 (\$ in Thousands): - (U) \$105,305 Continue product improvement development & testing - (U) \$8,300 PE/PI Government flight test - (U) \$113,605 Total	N O	
 (U) FY 1999 (\$\$ in Thousands). (U) \$193,444 Continue product improvement development & testing (U) \$8,900 PE/PI Government flight test (U) \$202,344 Total 	50	

(U) Acquisition Strategy

Improvement (PE/PI) contract (to develop cost reduction changes, capability enhancements, and design fixes to service-revealed problems); 3) a field support contract The C-17 Acquisition Strategy is based on five separate contracts to support the entire scope of the C-17 weapon system. These five contracts are: 1) a multi-year (to support the current and future fielded aircraft); 4) a MYP engine contract (for Government Furnished Equipment [GFE] engines); and 5) an aircrew training production (MYP) aircraft contract (to economically purchase the full complement of production aircraft); 2) a Producibility Enhancement and Performance systems (ATS) contract (for aircrew training).

program (along with engines to support them) to complete a 120-aircraft total purchase at the maximum affordable rate (FY97-03: 8-9-13-15-15-15-5), beginning with The Congressionally-mandated Mobility Requirements Study (MRS), initially forwarded to Congress on 23 Jan 92 and updated on 28 Mar 95, validated the need for Supplemental Appropriations Act and FY97 Defense Appropriations Bill approved a 7-year MYP program. The Air Force is proceeding with an 80-aircraft MYP the C-17 aircraft. Two C-17 Defense Acquisition Board (DAB) decisions, contained in the 3 Nov 95 and 1 Feb 96 USD(A&T) Acquisition Decision Memoranda (ADMs), directed the Air Force to proceed with a 120-aircraft production program and pursue a multi-year procurement for the last 80 aircraft. The FY96 the economic order quantity (EOQ) for FY96.

(U) B. Program Change Summary (\$\sumsimes\$ in Thousands)

Project 2569

Page 2 of 6 Pages

Exhibit R-2 (PE 0401130F)

BUDGET ACTIVITY 7 - Operational System Development	ALICA MARK	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	(hibit)		DATE	400	4001
	PE NUMBE 040113	PE NUMBER AND TITLE 0401130F C-17 Program	ogram			rebruary 1997 PROJ	9 1397 PROJECT 2569
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Congressional/General Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	996 FY 1997 668 87,486 803 77,486 65 -5,631 602 -81 88	FY 1998 5 107,114 5 107,114 1 6,491 1 113,605		FY 1999 178,538 178,538 23,806 202,344	Total Cost 6,628,995		
(U) Change Summary Explanation: Funding: The FY97 funding changes reflect congressional action decreasing the budget by \$10 million, a transfer of \$3.999 million to Electronic Systems Center for Precision Landing System Receiver program requirements, SBIR, miscellaneous bills mandated by congressional language, and to fund other DoD priorities for combat airlift and operations and maintenance supply accounts. Planned product improvement development and testing was rephased to reflect funding profile changes.	, decreasing the budg R, miscellaneous b anned product impi	get by \$10 millic fills mandated by rovement develo	on, a transi y congress opment an	fer of \$3.999 ional langua d testing wa	9 million to E	lectronic Sy nd other Dol reflect fundi	stems Center D priorities for ing profile
Schedule: No changes. Technical: No changes.							1.
usands)						To	Total
(U) <u>APAF</u> Budget Activity 02 2,485,631 2,112,618 2,201,511 (Aircraft Quantity) (B) (B) APAF Budget Activity 06 (Spares) 79,985 4,358 88,800 (U) <u>MilCon</u> Budget Activity 05 (Mods) 20,817 41,934 59,053 (U) <u>MilCon</u> Budget Activity 6,900 80,905 9,655	X 1998 FY 1999 (01,511 2,960,600 (9) (13) 88,800 121,581 59,053 42,936 9,655 73,893	FY 2000 E 3,236,504 3,2 (15) 197,459 2 73,024 2 29,600	FY 2001 3,225,157 (15) 238,153 232,577 10,700	FY 2002 3,056,748 (15) 217,859 295,167 3,700	FY 2003 1,202,980 (5) 216,614 318,265	Compl 186,800 (0) 345,500 113,800	Cost (120) 2,058,323 1,226,390 373,448
Project 2569	Page 3 of 6 Pages	es		В	Exhibit R-2 (PE 0401130F)	PE 0401130)F)

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RDT&E BUDGET IT		M JUSTIF	-ICATIC	EM JUSTIFICATION SHEET (R-2 Exhibit)	(R-2 Ex	hibit)		DATE	re February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	ment			PE NUMBER AND TITLE 0401130F C-17 Program	O-17 Pro	ogram				PROJECT 2569
(U) Acquisition Milestones: Milestone III	- *x	FY 1996 2 3	4	FY 1997 2 3	4		FY 1998 2 3	4	FY 1999	4
(U) Engineering Milestones: Static Article Test Complete Durability Article Test (1st Lifetime) Durability Article Test (2nd Lifetime) Durability Article Test (3rd Lifetime) DT&E DIOT&E Live Fire Test Comp (final rpt, 26 Sep 95)				×						
(U) Contract Milestone Lot VIII (8 a/c) Lot IX Adv Proc (8 a/c) Lot IX (8 a/c) Lot X Adv Proc (9 a/c) Lot X Lot X Lot XI Adv Proc (13 a/c) Lot XI Lot XI Lot XI Lot XI Lot XI		* *	**	* *	,	×	ų.	×	×	
Other Program Milestone: N/A * Denotes milestone completion										
Project 2569			$P_{\mathcal{L}}$	Page 4 of 6 Pages				Exhibit R-	Exhibit R-2 (PE 0401130F)	

RDT&E	RDT&E PROGRAM	ĮΨ	(R-3)	JJECT C	OST BR	AKDO	WN (R-3		DATE F	February 1997	997
BUDGET ACTIVITY 7 - Operational System Developm	stem Deve	lopment			PE NUMBER AND TITLE 0401130F C-17 Program	O-17 Pro	ogram				РРОЈЕСТ 2569
(U) A. Project Cost Breakdown (\$ in Thousands)	akdown (\$ in '	Thousands)			!						
				FY 1996	FY 1997		FY 1998	FY 1999			
(U) Contractor Furnished Equipment (I) Training Other Government Contractor (OGC)	Equipment nment Contrac	tor (OGC)		45,550	66,774		105,305	193,444			
(U) Test OGC (U) Mission Support OGC				13,906	5,000	· 0 0	8,300	8,900 0			
(U) Engine Data/Refurb OGC(U) Site Activation OGC(U) Miscellaneous	DBC			0 100 8,400		000	000	000			
(U) Total				71,956	71,774		113,605	202,344			
(U) B. Budget Acquisition History and Plant	on History and	d Planning In	uing Information (\$ in Thousands)	n Thousands)	<u></u>						
Performing Organizations:	18:										
Contractor or	Contract										
Government N Performing o	Method/Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to	Budget	Budget			Budget to	Total
Activity	Vehicle	Date	EAC	EAC	FY 1996	FY 1996	FY 1997	FY 1998	FY 1999	Complete	Program
Toduct Development Organizations Douglas Aircraft C,FPI/FP F33657-81-C-2108	C,FPI/FP	8/31/81	5,190,914	5,190,914	5,190,366	547	0	0	0	0	5,190,914
	CPFF	7/13/95	905,927	882,454	27,120	45,003	66,774	105,305	193,444	468,281	905,927
	C,FP	5/24/91	25,346	25,346	25,346	0	0	0	0	0	25,346
	C,FPI	4/14/89			83,885	0	0	0	0	0	83,885
Project 2569	j	į		Page	Page 5 of 6 Pages		ļ	Exh	bit R-3 (PE	Exhibit R-3 (PE 0401130F)	
					1765						

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	T COST BR	EAKDO	NN (R-3		DATE	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401130F C-17 Program	AD TITLE C-17 Pro	ogram		-		PROJЕСТ 2569
Contractor or Contract Government Method/Type Award or Performing Project Performing or Funding Obligation Activity Office Activity Vehicle Date EAC EAC	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	FY 1998	FY 1999	Budget to Complete	Total <u>Program</u>
Support and Management Organizations Mission Support OGC PO Site Activation OGC PO Miscellaneous PO	93,100 1,500 46,805	4,000 100 2,300	000	000	000	000	97,100 1,600 49,105
Test and Evaluation Organizations Combined Test Force PO Dec 97 Live Fire Test PO Other	180,290 10,252 3,030	13,906 0 6,100	5,000	8,300 0 0	8,900 0 0	38,100 0 0	254,496 10,252 9,130
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	S in Thousands)						
Government Furnished Property: N/A						i	
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	5,326,717 141,405 193,572	45,550 6,400 20,006	66,774 0 5,000	105,305 0 8,300	193,444 0 8,900	468,281 0 38,100	6,206,071 147,805 273,878
Total Project	5,661,694	71,956	71,774	113,605	202,344	506,381	6,627,754
Project 2569	Page 6 of 6 Pages	i,		Exh	ibit R-3 (PE	Exhibit R-3 (PE 0401130F)	
	,,,,,,						

PE NUMBER: 0401214F

UNCLASSIFIED

PE TITLE: Air Cargo Materiel Handling (463L)

RDT&E BUDGET IT	EM JUS	TIFICA	TION S	HEET (R	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fe	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development			PE NI 040	PE NUMBER AND TITLE 0401214F Air C	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	Materiel	Handling	3 (463L)		
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	0	3,145	7,947	522	524	0	0	0	0	12,138
5120 60K Pound Capacity Aircraft Loader	0	579	0	0	0	0	0	0	0	579
5150 Next Generation Small Loader (NGSL)	0	2,566	7,947	522	524	0	0	0	0	11,559
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

providing greater deployability and cargo handling capacity at a number of smaller, but vital, peacetime and contingency airfields. Fielding of the 60K and NGSL also element, which also contains the 60K procurement funding. The RDT&E efforts of the NGSL have also been aligned to this program element which likewise includes developing, and fielding two new aircraft cargo loaders. These new loaders will alleviate critical existing loader deficiencies and provide the Air Force with a flexible which the 40K lacks. NGSL replaces aging 25K loaders, which are rapidly declining in reliability. NGSL, with WBA capability, complements the 60K capability by eliminates the requirement for a Wide-Body Elevator Loader (WBEL) fleet, a stationary transfer platform currently used in conjunction with 40K and 25K loaders to service WBA. Starting in FY97, the Air Force realigned 60K RDT&E funding from PE 0604704F, Common Support Equipment Development, into this program the procurement funding for production units. Operational System Development involves acquisition of two loaders to support mobility aircraft; neither requires balance of large and small loader capability for the future. The 60K will replace the 40K loader as the strategic aerial port workhorse servicing all cargo military aircraft and Civil Reserve Air Fleet (CRAF). More importantly, the 60K will have the capability to reach and directly interface with Wide-Body Aircraft (WBA), This program element contains two projects integral to the Air Force's ability to mobilize forces and equipment worldwide. The two projects involve testing, significant additional development.

(U) Acquisition Strategy:

This competition resulted in a production contract award to one manufacturer. The 60K loader strategy baselines a reliability growth testing program that decreases 60K Loader: The 60K loader program incorporated an approach whereby two manufacturers built two prototypes each to compete in a "drive-off" competition. failure rates to a level that supports deployment requirements to numerous worldwide locations.

NGSL: Commercial Off-the-Shelf & Non-Developmental Item (COTS/NDI) loaders are currently undergoing an operational suitability assessment. The Air Force will develop a definitive acquisition plan, maximizing the use of COTS/NDI, following this assessment.

Page 1 of 9 Pages

Exhibit R-2 (PE 0401214F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (I	R-2 Exhib	it)	DATE		February 1997	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	ТІТІЕ Air Cargo A	Nateriel Ha	andling (4	163L)		
(U) B. Program Change Summary (\$ in Thousands)							
(U) Previous President's Budget (U) Appropriated Value	5 <u>FY 1997</u> 3,212 3,212	FY 1998 8,420	FY 1999 841	FY 2000 529	000 529	Total <u>Cost</u> 13,002	
a. Cong/General Reductions	<i>1</i> 9-					-67	
c. Our of the Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	3,145	-473 7,947	-319 522	\$	-5 524	-797 12,138	
(U) Change Summary Explanation: Funding: For 60K efforts, \$404,000 of the FY98 and \$314,000 of the FY99 RDT&E funding was planned to support program management administrative expenses. Under PAP56 guidance, these funds have been realigned to O&M. FY97 Congressional reductions total \$67,000. Additional funding adjustments (\$69,000 in FY98, \$5,000 in FY99, and \$5,000 in FY00) decrease funding for ALC mission support functions.	e FY99 RDT&E fundin Y97 Congressional red LC mission support fun	g was planned luctions total &C	to support pro 57,000. Addit	gram manag ional funding	ement admii g adjustment	nistrative expen: ts (\$69,000 in	ses.
Schedule:							
Technical:							
(U) C. Other Program Funding Summary (\$ in Thousands)							
(U) Other Procurement, AF, BA-4, Air Cargo	FY 1998 FY 1999 84,154 125,975	FY 2000 126,430	FY 2001 FY 54,154	FY 2002 FN 44,495	FY 2003 50,865	To To Comple Comple Comple Tight Tig	Potal Cost TBD
(U) D. <u>Schedule Profile:</u> See Each Project							
	Page 2 of 9 Pages			Exhibit R-	Exhibit R-2 (PE 0401214F)	(214F)	
	1768						1

RDT&E BUDGET I	EM JUS	TIFICA	TEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R	-2 Exhi	bit)		DATE Fe l	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development			PE NL 040	PE NUMBER AND TITLE 0401214F Air C	ir Cargo	Materiel	PENUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	1 (463L)		PROJECT 5120
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
5120 60K Pound Capacity Aircraft Loader	0	579	0	0	0	0	0	0	0	579
(U) A. <u>Mission Description and Budget Item Justification</u> 5120: 60K Pound Capacity Aircraft Loader: Project 653852, 60,000 (60K) Pound Capacity Aircraft Transporter Loader: this project completes the development of the 60,000 pound capacity aircraft transporter/loader to fulfill Air Mobility Command's (AMC's) requirement, as documented in Operational Requirement Document (ORD) 002-89-1. The project provides a single unique loader to on/off load various aircraft like the C-17, C-5, C-141, C-130, C-27, KC-10, and Civil Reserve Air Fleet (CRAF) in combination with the 40K, wide-body elevator, and lower lobe loaders. The 60K loader will be driven on/off of the C-17, C-5, and C-141 aircraft without shoring, and it will be the only loading vehicle capable of moving a type V airdrop platform carrying a full 60,000 pounds required by the US Army. The 60K loader will be significantly more reliable than the 40K loader. The 60K loader will facilitate a major reduction in deployment preparation time from 30 man-hours to 3 man-hours.	ustification ader: Project reraft transport te project prov ination with the I be the only k	653852, 60, ter/loader to ides a single 440K, wide-vading vehicle le than the 4	ustification ader: Project 653852, 60,000 (60K) Pound Capacity Aircraft Transporter Loader: this project completes the roraft transporter/loader to fulfill Air Mobility Command's (AMC's) requirement, as documented in Operational he project provides a single unique loader to on/off load various aircraft like the C-17, C-5, C-141, C-130, C-27, KC-10, ination with the 40K, wide-body elevator, and lower lobe loaders. The 60K loader will be driven on/off of the C-17, C-5 ll be the only loading vehicle capable of moving a type V airdrop platform carrying a full 60,000 pounds required by the tly more reliable than the 40K loader. The 60K loader will facilitate a major reduction in deployment preparation time	ound Capac lobility Com er to on/off or, and lowe fmoving a ty	ity Aircraft 'mand's (AM load various r lobe loader varidrolder will facili	Transporter 1C's) require aircraft like is. The 60K p platform ci	Loader: this ment, as doc the C-17, C- loader will tarying a full reduction ir	project com sumented in -5, C-141, C ve driven on, 160,000 pou	ppletes the Operational Coperational (c-173, c-27, foff of the C mds required the preparation)	KC-10, -17, C-5, 1 by the n time
(U) FY 1996 (\$ in Thousands): Not applicable*	*.									<u>,</u>
(U) FY 1997 (\$ in Thousands): - (U) \$ 44 Research ECPs - (U) \$535 Continued contracted advisory and assistance services and program management support - (U) \$579 Total	isory and ass	istance servi	ices and prog	gram manag	ement suppo	Ħ				

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Project 5120

(U) FY 1999 (\$ in Thousands):

- (U) \$0 Total

* FY 96 efforts were funded in PE 0604704F, Common Support Equipment Development

(U) FY 1998 (\$ in Thousands):
- (U) \$0 Total

Exhibit R-2 (PE 0401214F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (F	8-2 Exhibi	the state of the s	DATE	Fohriism, 1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	тпс Vir Cargo M	ateriel Han	dling (463L)	PROJECT 5120
(U) B. Program Change Summary (\$ in Thousands)					
(U) Previous President's Budget 0 Appropriated Value	FY 1997 592	FY 1998 404	<u>FY 1999</u> 314	Total Cost 1310	
(U) Adjustments to Appropriated Value a. Cong/General Reductions b. SBIR	-13			-13	
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	579	-404 0	-314 0	-718 579	
 (U) Change Summary Explanation: Funding: FY98/99 RDT&E funding was planned to support program management administrative expenses. Under PAP56 guidance, \$404,000 in FY98 and \$314,000 in FY99 have been realigned to O&M. FY97 Congressional reductions total \$13,000. 	iagement administra ductions total \$13,0	ative expenses. 00.	Under PAP56 g	uidance, \$404,000 in	FY98 and
Schedule: 60K loader reliability was not sufficient to accept loaders for IOT&E. The Air Force is implementing a corrective action plan and program restructure with a one year slip in schedule. Congress denied FY97 procurement funds in response to this slip.	OT&E. The Air Fo ds in response to th	rce is impleme is slip.	nting a correctiv	e action plan and prog	gram restructure
(U) C. Other Program Funding Summary (\$ in Thousands)					
(U) Other Procurement (includes initial spares), 42,336 FY 1997 FY AF, BA-4, Air Cargo Materiel Handling	FY 1998 FY 1999 84,154 96,018	FY 2000 F	FY 2001 FY 2002 22,555 4,552	FY 2003 3,062	To Total Compl Cost TBD 350,236
(U) D. Schedule Profile FY 1996	FY 1997		FY 1998	Уд	FV 1990
(U) Complete IOT&E (U) Milestone III (U) IOC	2 3	1	× 3	4 X X X X X X X X X X X X X X X X X X X	3 4
Project 5120	Page 4 of 9 Pages	:	Ш	Exhibit R-2 (PE 0401214F)	214F)
	1770				

R	RDT&E PROGRAM	GRAM EL	EMENT/	EMENT/PROJECT COST BREAKDOWN (R-3)	T COST E	3REAKD	OWN (R-	(F)	DATE	February 1997	267
BUDGET ACTIVITY 7 - Operation	BUDGET ACTIVITY 7 - Operational System Development	evelopme	1t		PE NUMBE 040121	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	urgo Mate∟	riel Handli	ng (463L)	i di mana	РРВОЈЕСТ 5120
(U) A. Project	(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>	(\$ in Thousan	<u>(S)</u>								
				FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Research ECPs (U) Advisory and a	(U) Research ECPs (U) Advisory and assistance services and program mgmt spt	es and program	ı mgmt spt			44 535 579			d.		
(U) B. Budget A	(U) B. Budget Acquisition History and Plannin	y and Plannin	g Information	ig Information (\$ in Thousands)	(spu						
Performing Organizations:	anizations:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Developn AFMC/ WR-ALC/LVA	Product Development Organizations AFMC/ WR-ALC/LVA	mi									
Support and Management Organizations AMC/XPQ	igement Organiza	ions									
Test and Evaluation Organizations AFOTEC	on Organizations										
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	cquisition Histor	y and Planning	<u>Information</u>	Continued (\$	in Thousands	į.					
Government Furnished Property: Not Applicable	nished Property:	Not Applicable	4)								
Project 5120				P	Page 5 of 9 Pages	es		Exbi	Exhibit R-3 (PE 0401214F)	0401214E)	

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICAT	TION SI	IEET (R	-2 Exhil	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development			PE N(PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	птге ir Cargo	Materiel	Handling	ı (463L)	T 10	РРОЈЕСТ 5150
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
5150 Next Generation Small Loader (NGSL)	0	2,566	7,947	522	524	0	0	0	0	11,559

(U) A. Mission Description and Budget Item Justification

loader acquisition. Upgrading the current loader fleet with the NGSL will correct critical high-reach shortcomings and provide increased flexibility to ensure the Air Force 5150: Next Generation Small Loader: The NGSL (25K to 35K capacity) program supports acquisition and delivery of approximately 256 loaders that will eventually, along with the 60K loader, form the backbone of the Global Reach airlift 463L (pallet) system. NGSL, equipped with WBA capability, complements the 60K meets its global mobility commitments.

elevator loaders, providing the Department of Defense with a single cargo handling system that can reach the deck heights of the KC-10 and CRAF WBA and lower to the C-130 deck height. Additionally, the NGSL will be air transportable on the C-17, C-5, C-141, and C-130, thus allowing worldwide deployment to contingency and front Currently the Air Force uses a 30-year old 25K loader with an extremely low mean time between failure (around 10 hours). The existing 25K loader lacks high reach capability and requires a separate elevator/transfer platform to off/on load KC/10 and CRAF WBA. The NGSL will replace the aging 25K loader and wide-body line airfields.

follow-on engineering changes identified by the initial test program. This approach will accelerate the acquisition process and result in an earlier operational capability. The NGSL program will procure NDI loaders for testing and evaluation. The Air Force will then select a contractor to build loaders that contain the necessary

- (U) FY 1996 (\$ in Thousands): Not Applicable
- FY 1997 (\$ in Thousands): Not Applicable 5
 - Acquire test articles (U) \$2,266 (U) \$ 300 (U) \$2,566
- Provide program management support
 - Total
- FY 1998 (\$ in Thousands): 9
- Acquire test articles; conduct reliability growth tests Provide program management support (U) \$7,047
 - (U) \$ 900 (U) \$7,947

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Exhibit R-2 (PE 0401214F)

RDT&E BUDGET ITEM JUS	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	(R-2 Exhib	jŧ	DATE	Fohriam, 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0401214F Air C	D TITLE Air Cargo I	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	dling (463L)	PROJECT 5150
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$522 Provide program support - (U) \$522 Total						
U) <u>FY 2000 (\$ in Thousands):</u> - (U) \$524 Provide program support - (U) \$524 Total						
(U) B. Program Change Summary (\$ in Thousands)						
(U) Previous President's Budget (U) Appropriated Value	FY 1996 0	FY 1997 2,620	FY 1998 8,016	FY 1999 527	FY 2000 529	Total Cost 11,692
(U) Adjustments to Appropriated Value a. Cong/General Reductions b. Spip		-54				-54
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget		2,566	-69	-5	-5 524	27- 11,559
(U) Change Summary Explanation:	0 in FY99, and \$5	5,000 in FY00) c	lecrease funding	for ALC missior	support functions	s. FY97 Congres
Technical:						
Project 5150	Page	Page 7 of 9 Pages		Щ	Exhibit R-2 (PF 0401214F)	401214F)

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R	-2 Exhibi	₽		DATE Febi	February 1997	
BUDGET ACTIVITY 7 - Operational System Development	ıt	PE NUMBER AND TITLE 0401214F Air C	ртпе Air Cargo Materiel Handling (463L)	ateriel H	andling	(463L)	PROJEC 5150	PROJECT 5150
(U) C. Other Program Funding Summary (S in Thousands)	Thousands)							
(U) Other Procurement, AF, BA-4, Air Cargo Materiel Handling	FY 1996 FY 1997 E	FY 1998 FY 1999 0 29,957	FY 2000 30,636	FY 2001 31,599	FY 2002 39,943	FY 2003 47,803	To Compl TBD	Total Cost TBD
(U) D. <u>Schedule Profile</u>								
(U) Quick Look Assessment (completion) (U) Test article contract award (U) Run-off competition (completion) (U) Procurement	FY 1996 2 3 4 1	FY 1997 X X	4 ×	FY 1998	4 ×	- 데 <i>o</i> ×	EY 1999 2 3 X	4
Project 5150	P	Page 8 of 9 Pages			Exhibit	Exhibit R-2 (PE 0401214F)	01214F)	
		1774	:					

RI	RDT&E PROGRAM ELEMENT/PROJECT	GRAM EL	EMENT	PROJECT	COST	COST BREAKDOWN (R-3)	OWN (R-	(5)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development	nal System D	evelopmen			PE NUMBE 04012	PE NUMBER AND TITLE 0401214F Air Cargo Materiel Handling (463L)	Irgo Matei	riel Handli	ng (463L)		РВОЈЕСТ 5150
(U) A. Project Cost Breakdown (S in Thousands)	ost Breakdown	(\$ in Thousand	গ্রে								
				FY 1996		FY 1997	FY 1998	FY 1999		FY 2000	
(U) Acquire test articles(U) Provide program management support(U) Total	rticles am management s	support				2,266 300 2,566	7,047 900 7,947	522 522	0, 0	524 524	
(U) B. Budget A	Budget Acquisition History and Planni	y and Plannin	g Information	ing Information (S in Thousands)	(spu						
Performing Organizations:	nizations:										
Contractor or Government Performing	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total
Product Development Organizations AFMC/WR- ALC/LVA	ient Organizations	rol.									
Support and Management Organizations AMC/XP	gement Organizat	ions									
Test and Evaluation Organizations AFOTEC	n Organizations										
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	quisition History	y and Planning	Information	Continued (\$	in Thousand	ভ					
Government Furnished Property: Not Applicable	ished Property:	Not Applicabl	ē								
Project 5150				P.	Page 9 of 9 Pages	tes		Exhi	Exhibit R-3 (PE 0401214F)	0401214F)	

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PE NUMBER: 0401218F

UNCLASSIFIED

PE TITLE: KC-135 Squadrons

RDT&E BUDGET II	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	2-2 Exhi	bit)		DATE Fe	February 1997	790
BUDGET ACTIVITY 7 - Operational System Development	<u> </u>		PE NI 040	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	quadrons			Can la	3
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	11,519	715	1,992	1,704	2,367	515	514	525	0	19,851
4286 Multipoint Modification	11,519	0	0	0	0	0	0	0	0	11,519
4403 Airborne Broadcast Intelligence (ABI)	0	715	0	0	0	0	0	0	0	715
4494 KC-135 Aging Aircraft Program	0	0	1,992	1,704	2,367	515	514	525	0	7,617
Quantily of RDT&E Articles	0	2/500	0	0	0	0	0	0	0	2/500

(U) A. Mission Description and Budget Item Justification

4286: Multipoint Modification: The Multipoint Refueling System (MPRS) enhances interoperability with the Navy, the Marines, NATO, and other Allied nations. It permits simultaneous and independent refueling of two, probe-equipped, receiver aircraft. These systems provide enhanced reliability and efficiency for probe/drogue established by Air Mobility Command (AMC) Mission Need Statement 003-92 and AMC Operational Requirements Document 003-92-I/II. The project is a low refueling and permits refueling of probe-equipped and receptacle-equipped receiver aircraft during a single mission (not simultaneously). This requirement was technical risk effort supporting a fielded weapon system and, therefore, is assigned to Budget Activity 7, Operational Systems Development.

by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often Plans identify a deficiency in the ability to protect aircraft from hostilities during combat operations. ABI addresses this deficiency and increases air crew survivability fly extended missions or transit enroute stations without full intelligence information capability. Information provided prior to mission departure is often outdated or 4403: Airborne Broadcast Intelligence (ABI) (name change from Real-Time Information in the Cockpit (RTIC)): The AMC Airlift and Air Refueling Mission Area incomplete upon arrival in theater. ABI provides increased threat situational awareness thus enabling aircrews to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system implementation costs, it is envisioned that ABI will be "snapped-on" to any AMC mobility fleet aircraft when this capability is needed. These systems are intended to be transferred between KC-135, KC-10, C-141, C-5, and C-17 operational wings, as required. This requirements. Two RDT&E test articles will be procured in FY97 with delivery in FY98. This endeavor consists of low technical risk efforts supporting fielded project is an FY97 new start to modify and integrate on the KC-135 previously developed intelligence communication and display equipment to meet AMC weapons systems and, therefore, is assigned to Budget Activity 7, Operational Systems Development.

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Exhibit R-2 (PE 0401218F)

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RDT&E BUDGET ITEM JUSTIFICATION	FEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY	PE NUMBER AND TITLE	
7 - Operational System Development	0401218F KC-135 Squadrons	

499: KC-135 Aging Auctaft Program: This program, in part, supports the aging aircraft corrosion and fatigue project--CORAL REACH. CORAL REACH studies include the analysis and testing efforts in the area of aging aircraft, to include corrosion, fatigue, and stress corrosion cracking. The USAF will utilize CORAL REACH addresses replacement schedules for the KC-135 based on economic decision points. This effort is a low technical risk effort supporting a fielded weapon system and, activities to improve KC-135 Programmed Depot Maintenance efficiency and to provide direction for future aging aircraft efforts to maintain the KC-135 as a viable airframe. CORAL REACH results provide accurate data for incorporation into the KC-135 Economic Life Study planned for FY00. The KC-135 Economic Service Life Study consists of studies for structure, systems, and component support as well as cost benefit analyses to support an Analysis of Alternatives (AOA). The AOA therefore is assigned to Budget Activity 7, Operational Systems Development.

(U) Acquisition Strategy:

4286: Multipoint Modification: The acquisition strategy for the Multipoint modification began as a full and open competition for a fixed price, Multipoint Wing Pod procurement. The contracting effort concluded as a sole-source procurement to Boeing. 4403: Airborne Broadcast Intelligence (ABI): The intended acquisition strategy for ABI is to re-utilize software and non-developmental hardware already prototyped in a competitive, fixed-price, contract award environment. 4494: KC-135 Aging Aircraft Program: The acquisition strategy consists primarily of separate task orders (with separate statements of work) ranging from fixed price to cost plus contracts. These task orders address a myriad of aging aircraft activities against existing contract vehicles, such as the SPO-managed KC-135 Fleet Support Contract and Design Engineering Program contracts managed through the Air Logistics Centers.

Page 2 of 22 Pages

Exhibit R-2 (PE 0401218F)

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RDT&E BUDGET ITEM JUSTIFIC	TEM JUSTIFICATION SHEET (R-2 Exhibit)	R-2 Exhibi	it)	DATE February 1997
вирсет Аститт 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	ıadrons	
(U) B. Program Change Summary (\$ in Thousands)			i	
(U) Previous President's Budget 12 (U) Appropriated Value 12.	EX 1996 EX 1997 12,727 793 12,727 757	FY 1998	FY 1999	Total Cost cont
ropriated Value tions r Above Threshold Reprogram	-376 -23 -294 -19			
 d. Below Threshold Reprogramming e. Rescissions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB 	-460 -78 11,519 715	1,992	1,704 1,704	cont
(U) Change Summary Explanation: Funding: FY96 reductions of \$1,208 due to SBIR, Economic and Overhead/Improved Management Reductions, Bosnia I, Bosnia II, below threshold reprogramming, and McClellan Nuclear Reactor bills. FY97 funds are for Airborne Broadcast Intelligence (ABI), an FY97 new program start. ABI funding reduced \$19K for SBIR and by \$23K for general Congressional reductions. FY98 POM initiative for KC-135 Aging Aircraft Program has FY98 through FY03 funding. USAF integrated these funds with the former KC-135 Economic Life Study BPAC that had \$959K in FY00.	Overhead/Improved Mars are for Airborne Broac eductions. FY98 POM is conomic Life Study BPA	nagement Reduct least Intelligence nitiative for KC-1 .C that had \$9599	tions, Bosnia I, Bo (ABI), an FY97 n 35 Aging Aircraft 5 in FY00.	sania II, below threshold tew program start. ABI funding Program has FY98 through FY03
Schedule: N/A				
Technical: N/A				
	Page 3 of 22 Pages		மி	Exhibit R-2 (PE 0401218F)

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RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	FION SH	IEET (R	-2 Exhil	ojt)		DATE Fab	Fohrusm, 1007	
BUDGET ACTIVITY 7 - Operational System Development	ent		PE NU 040	PE NUMBER AND TITLE 0401218F KC-1	D TITLE KC-135 Squadrons	uadrons		25	lual y 13	
(U) C. Other Program Funding Summary (\$ in	S in Thousands)									
(I) PE# 0401218F/KC-135 Sauadrons	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Total Cost
(U) Aircraft Procurement, AF, BA-5 KC-135 Mods. Multinoint	12,206	21,601	22,120	20,126	40,260	40,801	12,800			169,914
(U) Aircraft Procurement, AF, BA-7 Other Production Charges, ARI BP-19			1,525	1,512	1,572	1,530	1,564	1,525	TBD	TBD
(U) Operations & Maintenance, AF, BA-2 Mobilization, ABI			1,000	1,019	1,050	1,071	1,091	TBD	TBD	TBD
(U) PE# 0401119F/C-5 Squadrons Aircraft Procurement, AF, BA-7			1,518	1,433	1,496	1,528	1,379	1,345	TBD	TBD
Other Production Charges, ABI Related RDT&E: (U) PE# 0401119F/C-5 Squadrons RDT&E, AF, BA-7 Operational Systems Development, ABI		653								623
(U) D. Schedule Profile										
(U) Multipoint Modification (U) Airborne Broadcast Intelligence (ABI) (U) KC-135 Aging Aircraft Program	FY 1996 2 3	4 1 See Individ	4 1 2 3 4 1 2 See Individual Project R-2 Exhibits for Schedule Profiles	7 4 2 Exhibits f	1 or Schedule	<u>FY 1998</u> 2 3 Profiles	4	1 2 E	FY 1999	4
			,							

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Exhibit R-2 (PE 0401218F)

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	₹-2 Exhi	bit)		DATE Fe	February 1997	26
BUDGET ACTIVITY 7 - Operational System Developmen	nt		PE N	PE NUMBER AND TITLE 0401218F KC-1	TITLE (С-135 S	PE NUMBER AND TITLE 0401218F KC-135 Squadrons				PROJECT 4286
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4286 Multipoint Modification	11,519	0	0	0	0	0	0	0	0	11,519
(U) A. Mission Description and Budget Item Justification The Multipoint Refueling System (MPRS) enhances interoperability with the Navy, the Marines, NATO, and other Allied nations. It permits simultaneous and independent refueling of two, probe-equipped, receiver aircraft. This system provides enhanced reliability and efficiency for probe/drogue refueling and permits refueling of probe-equipped and receptacle-equipped receiver aircraft during a single mission (not simultaneously). This requirement was established by Air Mobility Command (AMC) Mission Need Statement 003-92 and AMC Operational Requirements Document 003-92-I/II. This project is a low technical risk effort supporting a fielded weapon system and, therefore, is assigned to Budget Activity, Operational Systems Development.	hances interoped, receiver aircoped, and page 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 1 and 2 and 4 and 2 and 4 and 2 and 4 and 2 and 4 and 2 and 4 and 2 and 2 and 2 and 3	perability wiraft. This syer aircraft d IC Operation	ith the Navy, ystem provid uring a singl nal Requiren perational S	the Marines les enhanced e mission (n nents Docurr ystems Deve	s, NATO, and reliability a lot simultane nent 003-92-1	d other Allied nd efficiency ously). This I/II. This pro	d nations. It for probe/d requirement	permits sim rogue refuel t was establi r technical ri	ultaneous an ing and pern shed by Air sk effort sup	d uits Mobility porting a
 (U) FY 1996 (\$\frac{\mathbb{S}}{\text{in Thousands}}\$): (U) \$\frac{\mathbb{S}}{\text{656}}\$ Engineering design, procurement, assembly & installation of MPRS Group-A; pod & pylon procurement of Group B (U) \$\frac{\mathbb{S}}{\text{2110}}\$ Test planning and support (U) \$\frac{\mathbb{3}}{\text{371}}\$ System Engineering and Technical Assistance (SETA) support (U) \$\frac{\mathbb{3}}{\text{211}}\$ ECO 	curement, ass nt Technical As	embly & ins	tallation of N	APRS Group	p-A; pod & r	yylon procuré	ement of Gro	g dno		
 (U) \$635 Mission support (U) \$500 Aircraft maintenance (U) \$506 GFP (MILSTRIP, GFE, fuel, and miscellaneous) (U) \$500 USAF realignment of \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96. (U) \$11,519 Total 	fuel, and miss 300K (FY96)	cellaneous) from Multip	oint into the	Aging Aircr	aft Program,	, with new str	art and realig	gnment appr	oved by Con	gress on
Į.										
(U) FY 1998 (\$ in Thousands): - (U) \$0 Total										
(U) <u>FY 1999 (\$ in Thousands):</u> - (U) \$0 Total										
Project 4286			Page 5 of 22 Pages	2 Pages			Exhibit	Exhibit R-2 (PE 0401218F)	401218F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	STIFICATI	ON SHE	ET (R-	2 Exhib	Œ.		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development		PE NUME 04012	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	uadrons			R4	РРОЈЕСТ 4286
(U) B. Program Change Summary (S in Thousands)									
(U) Appropriated Value	FY 1996 12,727 12,727	FY 1997		FY 1998	FY 1999	ହା	Total Cost 12,727 12,727		
	-376 -294 0 -460 -78								
(U) Adjustments to Budget Years Since FY 1997 PB(U) Current Budget Submit/98 PB	11,519						615,11		
(U) Change Summary Explanation: Funding: FY96 reductions of \$1,208 due to SBIR, Economic and Overhead/Improved Management Reductions, Bosnia I, Bosnia II, below threshold reprogramming, and McClellan Nuclear Reactor bills. USAF realignment of \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96.	nomic and Over USAF realignm	rhead/Improv ent of \$500K	ved Manag < (FY96) fr	ement Reduc om Multipo	ctions, Bosn int into the	ia I, Bosnia Aging Aircı	II, below thre aft Program, '	eshold with new sta	rt and
Schedule: N/A									
Technical: N/A									
(U) C. Other Program Funding Summary (\$ in Thousands)									
(U) Aircraft Procurement, AF, BA-5, KC-135 12,206 Mods, MN-KC4231, Multipoint	FY 1997 21,601	FY 1998 E	FY 1999 20,126	FY 2000 40,260	FY 2001 40,801	FY 2002 12,800	FY 2003	To Compl	Total <u>Cost</u> 169,914
Related RDT&E (U) N/A									
Project 4286	۵	1 (C)0 y 000	2000			i L	i 1	ĺ	
110,001	J .	rage o oj 22 rages	ages			EXPIDE	EXNIBIT K-2 (PE 0401218F)	01218F)	
		1782							

Design Stratement	RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET (R.	-2 Exhibi	t)	DATE	February 1997
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND T 0401218F K	тге C-135 Squ	adrons		PROJECT 4286
FY 1996 FY 1997 FY 1998 1 2 3 4 1 2 3 X X X X X X X X X X* X* X* X <td< td=""><td>(U) D. Schedule Profile</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	(U) D. Schedule Profile						
*Denotes milestone completion	ard	4 ×	FY 199		FY 1998 2 3 X X	4 X - X X	FY 1999 2 3 4 X X X
	(U) IOC (FY0.44) *Denotes milestone completion						
Project 4286 Exh	Project 4286	1	age 7 of 22 Pages			Exhibit R-2 (PE 0401218F)	E 0401218F)

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Description Per Number Act	PE NUMBER AND TITLE 0401218F KC-135 Squadrons		Leordary 1887
FY 1996 FY 1997 5,656 2,130 371 1,221 635 500 506 506 500		ns	PROJECT 4286
5,656 2,130 371 1,221 635 500 506 500			
5,656 2,130 371 1,221 635 500 506 506 500	FY 1997 FY 1998	FY 1999	
11,519			
	0 0	0	
Project 4286	Pages	Exhibit	Exhibit R-3 (PE 0401218F)

1/84

2	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COST B	REAKDO	JWN (R-	3)	DATE		
BUDGET ACTIVITY 7 - Operation	вирсет астину 7 - Operational System Developmer	evelopmer			PE NUMBER 040121	PE NUMBER AND TITLE 0401218F KC-13	PENUMBER AND TITLE 0401218F KC-135 Squadrons	ons		repruary 1997 PROJ	997 PROJECT 4286
(U) B. Budget	(U) B. Budget Acquisition History and Plannin	y and Plannin	g Information	g Information (\$ in Thousands)	(Sp						
Performing Organizations:	anizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Develops Boeing ASC/LCA	<u>Product Development Organizations</u> Boeing FFP ASC/LCA	28 Sep 95	ASC/LCA		20,197	7,612					27,809
Support and Man SETA Contractors * See below	Support and Management Organizations SETA Contractors * See below	tions			209	371 327 500					907
Test and Evaluation Organizations Edwards AFB Pax River NAS	on Organizations				0 0	1,180					1,180
* USAF realigne	* USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96.	om Multipoint	into the Aging	Aircraft Progra	m, with new s	tart and reali	gnment appro	ved by Congr	ess on 22 Oc	.961	
Project 4286				Pag	Page 9 of 22 Pages	s		Exhi	Exhibit R-3 (PE 0401218F)	0401218F)	

RDT&E P	RDT&E PROGRAM EL	EMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	EAKDO	WN (R-3		DATE E.	February 1997	67
BUDGET ACTIVITY 7 - Operational System Development	มะ Developmen	ıt	PE NUMBER AND TITLE 0401218F KC-1	AND TITLE F KC-135	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	us		4	PROJECT 4286
(U) B. Budget Acquisition	History and Plannin	(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	n Thousands)				!		
Government Furnished Property:	perty:								
Contract Method/Type Item or Funding Description Vehicle	ct AType Award or ding Obligation E <u>Date</u>	Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property Shipping, Misc.	īX			103					103
Support and Management Property MILSTRIP	<u>perty</u>			300					300
Test and Evaluation Property KC-135 Fuel				103					103
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	nt ment		20,364 209	8,155 1,498 1,866					28,519 1,707 1,866
Total Project			20,573	11,519					32,092
Project 4286		Page	Page_10 of 22 Pages	S.		Exhil	Exhibit R-3 (PE 0401218F)	0401218F)	
			, 65.						

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SE	tEET (F	-2 Exhi	bit)		DATE Fe	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t.		PE NI 040	PE NUMBER AND TITLE 0401218F KC-1	TITLE (С-135 Sc	PE NUMBER AND TITLE 0401218F KC-135 Squadrons			4	PROJECT 4403
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4403 Airborne Broadcast Intelligence (ABI)	0	715	0	0	0	0	0	0	0	715
(U) A. Mission Description and Budget Item Justification The Air Mobility Command (AMC) Airlift and Air Refueling Mission Area Plans identify a deficiency in the ability to protect aircraft from hostilities during combat operations. The Airborne Broadcast Intelligence (ABI) system (name change from Real-Time Information in the Cockpit (RTIC)) addresses this deficiency and increases aircrew survivability by providing aircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. Strategic mobility aircrews often fly extended missions or transit enroute stations without full intelligence information capability. Information provided prior to mission departure is often outdated or incomplete upon arrival in theater. ABI provides increased threat situational awareness and enables aircrews to make mission modifications to avoid enemy threats under rapidly changing combat conditions. To limit system implementation costs, ABI will "snap-on" to any AMC mobility fleet aircraft when this capability is needed. These systems are intended to be transformed between RC-135, RC-10, C-141, C-5, and C-17 operational wings, as required. This project is an FY97 new start to modify and integrate on the RC-135 previously developed intelligence communication and display equipment to meet AMC requirements. USAF will procure two RDT&E test articles in FY97 with delivery in FY98. This project is comprised of low technical risk efforts supporting fielded weapons systems and, therefore, is assigned to Budget Activity 7, Operational Systems Development.	Justification and Air Refueling Mission Area Plans identify a deficiency in the ability to protect aircraft from hostilities during combat gence (ABI) system (name change from Real-Time Information in the Cockpit (RTIC)) addresses this deficiency and sence (ABI) system (name change from Real-Time Information in the Cockpit (RTIC)) addresses this deficiency and saircrews with portable, on-aircraft, mission equipment to receive and display critical, real-time intelligence information. ed missions or transit enroute stations without full intelligence information capability. Information provided prior to nplete upon arrival in theater. ABI provides increased threat situational awareness and enables aircrews to make mission rapidity changing combat conditions. To limit system implementation costs, ABI will "snap-on" to any AMC mobility fle se systems are intended to be transformed between KC-135, KC-10, C-141, C-5, and C-17 operational wings, as required, and integrate on the KC-135 previously developed intelligence communication and display equipment to meet AMC &E test articles in FY97 with delivery in FY98. This project is comprised of low technical risk efforts supporting fielded to Budget Activity 7, Operational Systems Development.	ng Mission tem (name coortable, on-ransit enrout val in theated g combat contended to but the KC-13; in FY97 wit rity 7, Opera	Area Plans id aircraft, miss ie stations wi r. ABI provi widitions. To e transforme 5 previously th delivery in trional Syster	lentify a def Real-Time I sion equipm thout full in des increase Ilmit syster developed i FY98. Thi	iciency in the information in ent to receive telligence in di threat situs in implement (C-135, RC-135, RC-s project is coment.	e ability to punt the Cockpi e and display formation ca ational aware ation costs, 1 10, C-141, Communication	rotect aircral t (RTIC)) ad critical, rea pability. Inf aness and en ABI will "sn -5, and C-17 on and displa	ft from hostil Idresses this I-time intelli formation pro ables aircrev ap-on" to an 7 operational ay equipmen al risk effort.	lities during deficiency an igence informovided prior ws to make my AMC mob I wings, as re at to meet AN s supporting	combat td tation. tasion iission iiity fleet quired. fC
(U) <u>FY 1996 (\$ in Thousands):</u> – (U) \$0 Total										
(U) FY 1997 (\$ in Thousands): - (U) \$676 Engineering study/analys; - (U) \$39 Mission support - (U) \$715 Total	lysis; prototype development, modification, retrofit, and qualification/certification testing	developmer	ıt, modificati	ion, retrofit,	and qualifice	ation/certific	ation testing			
(U) <u>FY 1998 (\$ in Thousands):</u> – (U) \$0 Total										
(U) <u>FY 1999 (\$ in Thousands):</u> – (U) \$0 Total										
Project 4403			Page 11 of 22 Pages	22 Pages			Exhibit	Exhibit R-2 (PE 0401218F)	401218F)	

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RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE FORMON 1907	1007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons		PROJECT 4403
(U) B. Program Change Summary (\$ in Thousands)			
(U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong/Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	FY 1997 FY 1998 F 793 757 -23	Total Cost 793 757	
c. Nescassions (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB	715	715	
(U) Change Summary Explanation: Funding: ABI funding reduced \$19K for SBIR and by \$23K for general Congressional reductions.	Congressional reductions.		
Schedule: N/A			,
Technical: N/A			
Project 4403	Page 12 of 22 Pages	Exhibit R-2 (PE 0401218F)	

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RDT&E BUDGET I	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA1	FION SH	IEET (R	-2 Exhil	oit)		DATE Fet	February 1997	97.
BUDGET ACTIVITY 7 - Operational System Development	it		PE NU 040	PE NUMBER AND TITLE 0401218F KC-1	тте С-135 So	PENUMBER AND TITLE 0401218F KC-135 Squadrons			4	РРОЈЕСТ 4403
(U) C. Other Program Funding Summary (\$ in Thousands)	in Thousands)									
(U) PE# 0401218F/KC-135 Squadrons Aircraft Procurement AF RA-7	FY 1996	FY 1997	FY 1998 1,525	FY 1999 1,562	FY 2000 1,572	FY 2001 1,533	FY 2002 1,564	FY 2003 1,525	To Compl TBD	Total Cost TBD
Other Production Charges, ABI, BP-19 (U) Operations & Maintenance, AF, BA-2 Mobilization ABI			1,000	1,019	1,050	1,071	1,091	TBD	TBD	TBD
CONTRACTOR OF THE ADDITION OF THE ADDITION OF THE ABI (U) Aircraft Procurement, AF, BA-7 Other Production Charges, ABI		653	1,518	1,433	1,496	1,528	1,379	1,345	TBD	653 TBD
(U) D. Schedule Profile										
1	FY 1996 2 3	4	1 전	FY 1997 2 3	4	FY 1998 2 3	∞l ε. 4		FY 1999 2 3	4
 (U) AOA/RDT&E Studies Complete (U) Certification/Qualification Testing (U) Prototype Demo (U) Program Office Startup (U) Integration (Deliverables to Unit) 		*		×	××	×	× ×	×	×	×
* Denotes milestone completion										
Project 4403			Page 13 of 22 Pages	22 Pages]	Exhib	Exhibit R-2 (PE 0401218F)	401218F)	
		! !	1790							

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Depth/Procession Depth/Proce	7 - Operational System Development (U) A. Project Cost Breakdown (\$ in Thousands) (U) Bigineering study/analysis, prototype development testing (U) Mission support (U) Total (U) B. Budget Acquisition History and Planning Information (Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations ESC TBD TBD TBD Test and Evaluation Organizations	HV 1006	PE NUMBER AN	7111					
Thousands EY 1996 EY 1997 EY 1999 EY 1999	(U) Engineering study/analysis, prototype development testing (U) Mission support (U) Total (U) B. Budget Acquisition History and Planning Information of Performing Organizations: Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations Support and Management Organizations ESC TBD TBD TBD Test and Evaluation Organizations	7 100K	0401218F	KC-135	Squadro	NS		4	ROJEСТ 1403
pe development testing 676 FY 1998 FY 1999 FY 1999 715 Ad Planning Information (\$ in Thousands) and or Performing Project Total ligation Activity Office Prior to Budget Budget Budget Budget Budget Budget Prior to Budget FY 1996 FY 1996 FY 1999 Complete Project Complete Prior FY 1999 Complete Project Prior FY 1999 Project Prior FY 1999 Complete Project Prior FY 1999 Project Prior FY 1999 Complete Project Prior FY 1999 Complete Project Prior Project Prior FY 1999 Project Prior FY 1999 Complete Project Prior Prior Project Prior Prior Project Prior Prior Prior Project Prior Pri	(U) Engineering study/analysis, prototype development testing (U) Mission support (U) Total (U) B. Budget Acquisition History and Planning Information of Performing Organizations: Contractor or Contract Government Method/Type Award or Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations ESC TBD TBD TBD Support and Management Organizations Test and Evaluation Organizations	FV 1006							
715	(U) B. Budget Acquisition History and Planning Information (U) Mission support (U) B. Budget Acquisition History and Planning Information (U) B. Budget Acquisition History and Planning Information (U) B. Contractor or Contract Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations ESC TBD TBD TBD TBD TBD Test and Evaluation Organizations		FY 199		1998	FY 1999			
Pand Planning Information (\$ in Thousands) Award or Performing Project Total Obligation Activity Office Prior to Prior Budget Budget Budget Budget Budget Budget Budget Budget PV 1999 Complete TBD TBD TBD TBD 715	(U) B. Budget Acquisition History and Planning Information of Performing Organizations: Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations ESC TBD TBD TBD Support and Management Organizations Test and Evaluation Organizations	iting	979	10.0					
d Planning Information (\$ in Thousands) and or Performing Project Total ligation Activity Office Prior to Budget Budget Budget Budget of Prior to Budget Budget Budget Budget Project FY 1996 FY 1997 FY 1999 Complete Proge TBD TBD 715 D TBD TBD 715 0 0 Exhibit R-3 (PE 0401218F)	Performing Organizations: Contractor or Contract Government Method/Type Award or Performing Performing or Funding Obligation Activity Activity Vehicle Date EAC Product Development Organizations ESC TBD TBD TBD Test and Evaluation Organizations		715	10					
ligation Activity Office Prior to Budget Budget Budget Budget Budget FY 1996 FY 1996 FY 1998 FY 1999 Complete Prop Prop TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD	ard or Performing ligation Activity te EAC D TBD	nation (\$ in Thousands							
ard or Performing Project Total ligation Activity Office Prior to Budget Budget Budget Budget Budget Properto EAC EAC FY 1996 FY 1997 FY 1998 FY 1999 Complete Properto TBD TBD TBD TBD 715 Complete Properto TBD All of 22 Pages 14 of 22 Pages Servibit R-3 (PE 0401218F)	ard or Performing ligation Activity te EAC D TBD								
D TBD TBD 0 0 0 Page 14 of 22 Pages Exhibit R-3 (PE 0401218F)	D TBD	ng Project Office <u>EAC</u>	H-I	щ	Budget Y 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
0 0 Page 14 of 22 Pages	Support and Management Organizations Test and Evaluation Organizations	TBD			715				715
0 Page 14 of 22 Pages	Test and Evaluation Organizations				c				_,
					> 0				3
Page 14 of 22 Pages					0				0
Page 14 of 22 Pages									
	Project 4403	Page 1	4 of 22 Pages			Exhib	t R-3 (PE (0401218F)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BF	REAKDO	WN (R-3		DATE	February 1997	397
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	AND TITLE F KC-138	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	su			PROJECT 4403
(U) B. Budget Acquisition History and Planning Information Continued (\$ in Thousands)	in Thousands)						
Government Furnished Property:							
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Property N/A							
Support and Management Property N/A							
Test and Evaluation Property N/A							
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			715 0 0				715 0 0
Total Project			715				715
Project 4403	Page 15 of 22 Pages	SS		Exhi	Exhibit R-3 (PE 0401218F)	0401218F)	

					(r.a	· · ·		1	repruary 1997	2
BUDGET ACTIVITY 7 - Operational System Development	ıt		PE N 040	PE NUMBER AND TITLE 0401218F KC-1	TITLE (C-135 S	PE NUMBER AND TITLE 0401218F KC-135 Squadrons			4	РКОЈЕСТ 4494
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4494 KC-135 Aging Aircraft Program	0	0	1,992	1,704	2,367	515	514	525	0	7,617
(U) A. Mission Description and Budget Item Justification This program, in part, supports the aging aircraft corrosion and fatigue projectCORAL REACH. CORAL REACH studies include the analysis and testing efforts in the area of aging aircraft, to include corrosion, fatigue, and stress corrosion cracking. The USAF will utilize CORAL REACH activities to improve KC-135 Programmed Depot Maintenance efficiency and to provide direction for future aging aircraft efforts to maintain the KC-135 as a viable airframe. CORAL REACH results provide accurate data for incorporation into the KC-135 Economic Life Study planned for FY00. The KC-135 Economic Study consists of studies for structure, systems, and component support as well as cost benefit analyses to support an Analysis of Alternatives (AOA). The AOA addresses replacement schedules for the KC-135 based on economic decision points. This effort is a low technical risk effort supporting a fielded weapon system and, therefore is assigned to Budget Activity 7, Operational Systems Development.	Istification aft corrosion fully fatigue, and d to provide into the KC- as well as co decision point lopment.	and fatigue stress corro direction fo 135 Econon st benefit ar	projectCOJ sion cracking r future agin, nic Life Stud talyses to sug ort is a low to	RAL REAC g. The USA g aircraft eff y planned fi pport an Ant	H. CORAL F will utilize forts to main or FY00. Th alysis of Alte	attication and fatigue projectCORAL REACH. CORAL REACH studies include the analysis and testing efforts in fatigue, and stress corrosion cracking. The USAF will utilize CORAL REACH activities to improve KC-135 do to provide direction for future aging aircraft efforts to maintain the KC-135 as a viable airframe. CORAL REACH into the KC-135 Economic Life Study planned for FY00. The KC-135 Economic Service Life Study consists of studies as well as cost benefit analyses to support an Analysis of Alternatives (AOA). The AOA addresses replacement alecision points. This effort is a low technical risk effort supporting a fielded weapon system and, therefore is assigned to opment.	ies include ti ACH activiti 35 as a viab onomic Serv A). The AC	he analysis a les to improv le airframe. ice Life Stu A addresses rstem and, th	nd testing eve KC-135 CORAL RE dy consists of replacementer erefore is as	fforts in ACH of studies t
 (U) FY 1996 (\$ in Thousands): (U) \$0 Frotal Project CORAL REACH - Aging aircraft corrision, fatigue, and supportability investigations. NOTE: USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96. Activities will be:	1 - Aging airc \$500K (FY9 ; will be: growth rate a est and predic ms Integrity F	raft corrisio 6) from Mu nd fatigue d tive techniq trogram (FS	- Aging aircraft corrision, fatigue, and supportability investigations. \$500K (FY96) from Multipoint into the Aging Aircraft Program, will be: rowth rate and fatigue determination and testing st and predictive technique is Integrity Program (FSIP) ontractor support	nd supportak the Aging A and testing	illity investig ircraft Progri	gations. am, with new	start and res	alignment ap	proved by C	ongress
(U) <u>FY 1997 (\$ in Thousands):</u> (U) \$0 Total										
Project 4494			Pace 16 of 22 Paces	22 Pages			щ х с с	Exhibit R-2 (PE 0401218E)	401218E)	

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	PROJECT 4494
	atigue, and supportability investigations ion and testing	
(U) FY 1999 (\$ in Thousands): - (U) Project CORAL REACH - Aging aircraft corrosion, fatigue, and supportability investigations - (U) \$100 Corrosion/crack growth rate and fatigue determination and testing - (U) \$495 Functional Systems Integrity Program (FSIP) - (U) \$1,000 Market survey and system cost estimates - (U) \$1,000 Mission support/contractor support - (U) \$1,704 Total	atigue, and supportability investigations ion and testing	
Project 4494	Page 17 of 22 Pages	Exhibit R-2 (PE 0401218F)

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Address Summary (S in Thousands) Fix and Change Summary (S in Thousands) Fix	RDT&E BUDGET IT	EM JUSTIFICATION SHEET (R-2 Exhibit)	ON SHEET	(R-2 Exhib	oit)	DATE February 1997
(U) Brevious President's Budget (U) Appropriated Value (U) Appropriated Value (U) Adjustment to Appropriated Value (U) Adjustment to Appropriated Value (U) Adjustment to Appropriated Value (U) Adjustment to Appropriated Value (U) Adjustment to Budget Years Since FV 1997 PB (U) Adjustments to Budget Years Since FV 1997 PB (U) Adjustments to Budget Vears Since FV 1997 PB (U) Charge Summary Explanation: (U) Charge Summary Explanation: Funding FV98 POM intrinsive for KC-135 Aging Aircraft Program has FV98 to FV93 funding. USAF integrated these funds with the former KC-135 Economic Life Study BPAC that had 5995 for FV90. USAF realigned \$500K (FV96) from Multipoint into the Aging Aircraft Program, with new start and realignment Schedule: N/A Technical: N/A Technical: N/A Project 4494 Project 4494 Exhibit R-2 (PE 0401218F)	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AN 0401218F	AD TITLE KC-135 Sq	uadrons	PRC PRC
is President's Budget riated Value nents to Appropriated Value g/Gen Reductions R ibus or Other Above Threshold Reprog ww Threshold Reprogramming sissions nents to Budget Years Since FY 1997 Pl Budget Submit/98 PB Summary Explanation: ding: FY98 POM initiative for KC-135 Study BPAC that had \$959K in FY00. oved by Congress on 22 Oct 96. edule: N/A nnical: N/A	(U) B. <u>Program Change Summary (\$ in Thousands)</u>	7007 AE	,			Total
w Threshold Reprogramming sissions ments to Budget Years Since FY 1997 Pl Budget Submit/98 PB Summary Explanation: ding: FY98 POM initiative for KC-135 Study BPAC that had \$959K in FY00. oved by Congress on 22 Oct 96. edule: N/A mical: N/A	 (U) Previous President's Budget (U) Appropriated Value (U) Adjustments to Appropriated Value a. Cong/Gen Reductions b. SBIR 	1990	1997 1997	FY 1998	FY 1999	Cost
Budget Submit/98 PB Summary Explanation: ding: FY98 POM initiative for KC-135 Study BPAC that had \$959K in FY00. oved by Congress on 22 Oct 96. edule: N/A mical: N/A	c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Rescissions					
Summary Explanation: ding: FV98 POM initiative for KC-135 Study BPAC that had \$959K in FY00. oved by Congress on 22 Oct 96. edule: N/A nnical: N/A	(U) Current Budget Submit/98 PB	0		1,992 1,992	1,704 1,704	cont
unical: N/A Page 18 of 22 Pages 1794	live for KC-135 959K in FY00. 2 Oct 96.	ircraft Program has aligned \$500K (FY	FY98 to FY03 fu 96) from Multipo	nding. USAF in int into the Agin	tegrated these func g Aircraft Progran	ds with the former KC-135 Econ n, with new start and realignmen
nnical: N/A Page 18 of 22 Pages 1794	Schedule: N/A					
	Technical: N/A					
Page 18 of 22 Pages 1794						
Page 18 of 22 Pages 1794						
Page 18 of 22 Pages 1794						
1794	rroject 4494	Page	e 18 of 22 Pages		Û	chibit R-2 (PE 0401218F)
			1794			

RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	PROJECT 4494
(U) C. Other Program Funding Summary (\$ in Thousands)		
(U) N/A	FY 1998 FY 1999 FY 2000 FY 2001 FY 2002	To Total Compl Cost
Related RDT&E: (U) N/A		
(U) D. Schedule Profile		
(U) Begin Corrosion & Fatigue Testing (U) Begin Materials Test & Predictive (U) Begin Mission Support	FY 1997 2 3 4 1 2 3 4 X* X* X* X* X*	FY 1999 1 2 3 4
* USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96.	n, with new start and realignment approved by Congre	s on 22 Oct 96.
Project 4494	Page 19 of 22 Pages Exhi	Exhibit R-2 (PE 0401218F)

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	DOWN (R-3)	DATE	February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0401218F KC-1	PE NUMBER AND TITLE 0401218F KC-135 Squadrons		PROJECT 4494
(U) A. Project Cost Breakdown (\$ in Thousands)				
FY 1996	96 FY 1997	FY 1998	FY 1999	
(U) Corrosion/crack growth determination and testing (100)* (U) Basic materials test and predictive technique	*(**	141	100	
	*(1,045	495	
	*(:	669	1,000 109	
(U) 10tal (S00)*	*(1,992	1,704	
	D 10 10 1			ĺ
F10 ect 4494	Xe 70 0/ 77 rages		Exhibit R-3 (PF 0401218F)	7,87

RD	RDT&E PROGRAM EL	3RAM EL	EMENT/F	EMENT/PROJECT COST BREAKDOWN (R-3)	COSTB	REAKDO	OWN (R-:	3)	DATE F (February 1997	397
BUDGET ACTIVITY 7 - Operational System Developmen	al System D	evelopmer	ıt		PE NUMBEF 040121	PE NUMBER AND TITLE 0401218F KC-13	PE NUMBER AND TITLE 0401218F KC-135 Squadrons	suc		4	РRОЈЕСТ 4494
(U) B. Budget Acquisition History and Plannin	equisition Histor	ry and Plannin	g Information	g Information (\$ in Thousands)	(sp						
Performing Organizations:	nizations:										
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Product Development Organizations Boeing C/KC-135 Fleet Support	ent Organizations C/KC-135 Fleet Support	Sep 98	KC-135 SPO			(400)*		1,398	1,195	TBD	TBD
Support and Management Organizations ARINC, Frontier, Design Oct other support Engineering Sep contractors Program (DEP)	gement Organizal Design Engineering Program (DEP)	tions Oct 97- Sep 98						292	251	ТВО	TBD
Test and Evaluation Organizations FAA, Wright Project Labs, etc. Order/MPIR	n Organizations Project Order/MPIR	Oct 97- Sep 98				*(100)		302	258	TBD	TBD
* USAF realigned \$500K (FY96) from Multipoint	\$500K (FY96) fr	om Multipoint	into the Aging	into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 96.	un, with new s	start and realig	gnment appro	ved by Congre	ess on 22 Oc	.966	
Project 4494				Pag	Page 21 of 22 Pages	ses		Exh	Exhibit R-3 (PE 0401218F)	0401218F)	

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1.10 1.10	BUDGET ACTIVITY 7 - Operational System Develop	TO THE PROPERTY INCOME.	COSI BREANDOWN (K-S)	שחשם	7-Y) NAA	•	Ľ.	February 1997	997
Contract Con		ment	PE NUMBER / 0401218	ND TITLE F KC-135	Squadro	ns			РРОЈЕСТ 4494
Covernment Furnished Property: Contract Contract Contract Contract Contract Contract Contract Contract Method/Type Award or Date Date Date Prior to Pri	(U) B. Budget Acquisition History and Pla	nning Information Continued (\$ i	n Thousands)						
Fortiging Contract	Government Furnished Property:								
Product Development Property N/A Support and Management Property N/A Subport and Management Property N/A N/A Subtoral Product Development Subtoral Product Development Subtoral Support and Management Subtoral Test and Evaluation Total Project Total Project * USAF realigned \$500K (FV96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 1	Contract Method Type or Funding Vehicle	·	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
Support and Management Property N/A Subtotal Development Subtotal Support and Management Subtotal Support and Management Subtotal Support and Management Subtotal Test and Evaluation Total Project * USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 1	Product Development Property N/A								
Test and Evaluation Property N/A Subtotal Product Development Subtotal Product Development Subtotal Support and Management Subtotal Support and Management Subtotal Test and Evaluation Total Project * USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 1	Support and Management Property N/A								
Subtotal Product Development Subtotal Subtotal Support and Management Subtotal Support and Management Subtotal Test and Evaluation Total Project * USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct 9	Test and Evaluation Property N/A								
Total Project * USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct of the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct of the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct of the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct of the Aging Aircraft Program of the Aging Aircraft	Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation			(400)*		1,398 292 302	1,195 251 258	TBD CBT CBT	TBD TBD
* USAF realigned \$500K (FY96) from Multipoint into the Aging Aircraft Program, with new start and realignment approved by Congress on 22 Oct	Total Project			*(005)		1,992	1,704		TBD
	* USAF realigned \$500K (FY96) from Multip	oint into the Aging Aircraft Program	ı, with new star	t and realign	ment approve	d by Congres	ss on 22 Oct	96.	
Project 4494 Exhibit R-3 (PE 0401218E)	Project 4494	Page	: 22 of 22 Page	7 0		П Ж	bit R-3 (PF	0401218E)	

PE NUMBER: 0404102F

UNCLASSIFIED

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	2 Exhi	bit)		DATE Fet	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	ţ		PE NI 040	PE NUMBER AND TITLE 0404102F Aeros	PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery	e Rescue	And Re	covery		PROJЕСТ 1325
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1325 HH-60G	5,097	3,165	0	0	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

hostile airspace and conducting operations at low level. These funds are used to engineer (1) the installation of long-range communications, a missile warning receiver, 1553 data bus and aircraft control display software. This program also integrates the AAR-47 missile warning receiver, ALE-47 flare/chaff dispensers, and ALR-69 radar warning receiver on to the MIL STD-1553 data bus and into aircraft control display unit software to provide both manual and automatic threat identification and countermeasure dispensing. This RDT&E effort completes with FY1997 funding. communicating at long ranges with command and control and supporting forces. In addition, the rescue platform must be survivable while penetrating medium threat radar warning receiver, and chaff and flare dispensers; and (2) control of all communication radios, transponders, and navigation radios on to the current MIL STD-This program is in budget activity 7 - Operational System Development, Research Category 6.6 - because the HH-60G Pave Hawk helicopter is a fielded weapon system. The mission of the HH-60G is search and rescue in hostile environments. To effectively perform this mission, the HH-60G must be capable of

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Exhibit R-2 (PE 0404102F)

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RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery	enidary	PROJECT
 (U) FY 1996 (\$\frac{1}{5}\$ in Thousands): (U) \$2,250 Engineering integration and control of all avionics. (U) \$2,847 Engineering and integration of Infrared Countermeasures (IRCM) and Missile Warning Receiver (MWR). (U) \$5,097 Total 	rres (IRCM) and Missile Warning Receiver (MWR		
 (U) £Y 1997 (\$\$ in Thousands): (U) \$1,345 Avionics Operational Test and Evaluation. (U) \$1,820 Infrared Countermeasures (IRCM) and Missile Warning Receiver (MWR) Operational Test and Evaluation. (U) \$3,165 Total 	ng Receiver (MWR) Operational Test and Evaluati	on.	
(U) <u>FY 1998 (\$ in Thousands):</u> - (U) \$0 Total			
(U) FY 1999 (\$ in Thousands): - (U) \$0 Total			
Project 1325	Page 2 of 5 Pages	Exhibit R-2 (PE 0404102F)	
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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATIO	N SHEET (R-2 Exhi	Dit)		DATE Feb	February 1997	26
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery	TITLE Aerospac	e Rescue	And Re	covery	<u> </u>	PROJECT 1325
(U) B. Program Change Summary (\$ in Thousands)						Total		
(U) Previous President's Budget (U) Appropriated Value	FY 1996 5,109 5,369	FY 1997 3,322 3,322	FY 1998 0	FY 1999	<u>66</u>	Cost 8,431 8,691		
a. Cong Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	-104 -114 -33	-71 -86						
(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget	5,097	3,165	0			8,262		
(U) Change Summary Explanation: Funding: FY97 includes SBIR and Congressional reductions.								
Schedule: Not Applicable.								
Technical: Not Applicable.								
(U) C. Other Program Funding Summary (\$ in Thousands)							Ę	
(U) Aircraft Procurement - Attrition Reserve	FY 1997 FY	FY 1998 FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	To Compl	Cost
		6,939 12,078	10,798	11,441	46,935	29,805	58,752	182,728
(U) D. Schedule Profile FY 1996		FY 1997		FY 1998	∞1	뇬	FY 1999	
1 2 3 (U) Contract Award (U) QT&E Completion (U) OT&E Completion * Denotes milestone completion	4 *X	С	4 X	× 8	£ 4	1	m	4
Project 1325	Pag	Page 3 of 5 Pages			Exhibil	Exhibit R-2 (PE 0404102F)	04102F)	
		1001						

1801

RDT&E PROGRAM ELEMENT/PR	OJECT CC	EMENT/PROJECT COST BREAKDOWN (R-3)	DOWN (R-3		DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	0 1	PE NUMBER AND TITLE 0404102F Aerospace Rescue	Space Resc	ue And Recovery	covery	PROJECT 1325
(U) A. Project Cost Breakdown (S in Thousands)						
	FY 1996	FY 1997	FY 1998	FY 1999		
(U) Avionics Upgrade						
	950	0				
_	450	0				
	235	0				
	235	0				
	350	0				
	0	1,345				
(U) Travel	30	0				
(U) Integration of Infrared Countermeasures (IRCM) and						
sile						
	950	0				
_	889	0				
	235	0				
(U) Technical Data	235	0				
(U) Integrated Logistics Support	700	0				
(U) Operational Test & Evaluation	0	1,820				
(U) Travel	39	0				
(U) Total	5,097	3,165				
Project 1325	Page 4	Page 4 of 5 Pages		Exhibi	Exhibit R-3 (PE 0404102F)	?F)
		1802				

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	JGRAM EL	EMENT/F	ROJECT	COSTB	REAKD	OWN (R-	3)	DATE	February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	Developme	1t		PE NUMBE 040410	PE NUMBER AND TITLE 0404102F Aerospace Rescue And Recovery	pace Res	cue And F	Recovery		РРОЈЕСТ 1325
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands)	tory and Plannin	ig Information	(\$ in Thousa	(spu						
Performing Organizations:										
Contractor or Contract Government Method/Type Performing or Funding Activity Vehicle	oe Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Contract Winner SS/C	96/6	N/A	N/A	0	5,037	0	0	0	0	5,037
Support and Management Organizations WR-ALC/LU Allot 1/9	<u>izations</u> 1/96	N/A	N/A	0	09	40	0	0	0	100
Test and Evaluation Organizations ACC & AFOTEC PO	3/97	N/A	N/A	0	0	3,125	0	0	0	3,125
Government Furnished Property: Not Applicable	ty: Not Applicab	<u>ə</u>								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation	ŧ				5,037 60 0	0 40 3,125				5,037 100 3,125
Total Project					5,097	3,165				8,262
Project 1325		i	P	Page 5 of 5 Pages	ses		Ext	Exhibit R-3 (PE 0404102F)	0404102F)	s
				1902						

1803

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1804

PE NUMBER: 0603852F

UNCLASSIFIED

PE TITLE: C-1301 Dem/Val

RDT&E BUDGET IT	EM JUS	TIFICA	TION SI	LEET (F	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE Fet	February 1997	397
BUDGET ACTIVITY 7 - Operational System Development	ţ		PE NI 0 00	PE NUMBER AND TITLE 0603852F C-13(PENUMBER AND TITLE 0603852F C-130J Dem/Val	m/Val			4 7	РRОЈЕСТ 4025
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4025 C-130J Dem/Val	o	0	3,968	0	0	0	0	0	0	8,800
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

utility testing of an Air Force unique system. USAF has concluded a vulnerability assessment that shows no significant difference in vulnerability between "H" and "J" The C-130J is the next generation C-130. The weapon system incorporates a redesigned, 2-crewmember flight station, a modern technology propulsion system, and an model aircraft. However, USAF will conduct a vulnerability reduction program to explore the potential to further reduce the chance of wing leading edge and dry bay utility testing includes cargo/paratroop drop certification, airdrop/airland short field demonstration, electro-magnetic interference testing, heavy gross weight takeoff, Battleffeld Command and Control Center (ABCCC) aircraft. Additionally, this program continues a theater airlift modernization effort to replace aging C-130E/Hs. This program is in budget activity 7 - Operational System Development, Research Category 6.6 because this effort conducts Live Fire Test (LFT) and the military fires (applicable to the entire C-130 fleet) and to test the new six-bladed composite propeller. USAF is working with OSD to finalize the LFT approach. Military integrated digital avionics subsystem. The program modernizes the fleet of Weather Reconnaissance (WC-130), Special/Psychological (EC-130), and Airborne etc. These tests will evaluate the aircraft's capability to perform its mission requirements.

Acquisition Strategy

for variable quantities to accommodate program, budget, and appropriation changes. The C-130 SPO will execute acquisitions of C-130J and derivative aircraft for the C-130 aircraft will be priced based on a standard USAF C-130J configuration. Unique equipment, components, or services for other customers (represented by USAF) negotiated and awarded a firm fixed price (FFP) type contract with an FY96 base year and FFP options for four additional years. Contract options will provide prices active Air Force, Air National Guard, Air Force Reserve, other military services, other government agencies, and selected Foreign Military sales. All US Government Consequently, the Milestone Decision Authority (MDA) has directed the program use commercial practices and that all contract provisions, review documents, and plans be streamlined to the maximum extent possible. The MDA conducted a Commercial Acquisition Review and Approval prior to contract award. The SPO USD (A&T) designated the C-130J program a Regulatory Pilot Program and the C-130 Contracting Officer determined the C-130J is a commercial item. or unique USAF mission requirements will be negotiated separately.

- (U) FY 1996 (\$ in Thousands):

Total

Project 4025

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Exhibit R-2 (PE 0603852F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhib	Ē	DATE February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0603852F C-130	PE NUMBER AND TITLE O603852F C-130J Dem/Val	ı/Val	4	PROJECT 4025
(U) FY 1997 (\$ in Thousands): - (U) \$0 - (U) \$0 - (U) \$0 - (U) \$0 - (U) \$0					
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$3,968 Conduct Live Fire Component Testing as required - (U) \$ - (U) \$ - (U) \$ - (U) \$\$					
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$0 - (U) \$0 - (U) \$0 - (U) \$0 - (U) \$0					
(U) B. Program Change Summary (S in Thousands)					
(I)) Previous President's Budget	FY 1997	FY 1998	FY 1999	Total Cost	
Volue	000	000	00	4,832*	
	000	000	000	,	
we Threshold Reprogram	000	000	000	000	
d. Delow 1 meshold reprogramming (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/President's Budget 0	000	0 0 3,968	000	0 0 8,800	
*FY95 Congressional Add					
Project 4025 Pa	Page 2 of 5 Pages			Exhibit R-2 (PE 0603852F)	<u></u>

1806

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TITEM JUS	STIFICAL	TION SE	HEET (R	-2 Exhil	pit)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Developme	nent		PE NI 060	PE NUMBER AND TITLE 0603852F C-130J Dem/Val	пт.е -130J De	m/Val			PR 40	PROJECT 4025
(U) Change Summary Explanation: Funding: FY98 funds are designated for a Live Fire Test (LFT) program. USAF has concluded a vulnerability assessment that shows no significant difference in vulnerability between "H" and "J" model aircraft. However, USAF proposes a vulnerability reduction program to explore methods to reduce the chance of wing leading edge and dry bay fires (applicable to the entire C-130 fleet) and to test the new six-bladed composite propeller.	or a Live Fire Tedel aircraft. How	Live Fire Test (LFT) program. USAF has concluded a vulnerability assessmaircraft. However, USAF proposes a vulnerability reduction program to explore to the entire C-130 fleet) and to test the new six-bladed composite propeller.	ram. USAF proposes a v md to test th	has concludulnerability is new six-bla	ed a vulneral reduction pro	bility assessn ogram to exp site propeller	nent that sho lore method	ows no signif	icant differen he chance of	ice in wing
Schedule: NA										
Technical: NA										
(U) C. Other Program Funding Summary (S in Thousands)	S in Thousands									
(U) <u>APAF</u> Budget Activity 02, Other Airlift (Aircraft Quantity)	<u>FY 1996</u> 106,400	FY 1997 68,815	FY 1998 50,674	FY 1999 0 0	FY 2000 0 0	FY 2001 0 0	FY 2002 171,449	FY 2003 194,164	To Compl TBD TBD	Total Cost TBD TBD
(U) D. Schedule Profile										
(1) Acanisition Milestones	FY 1996	4	1 2 円	FY 1997 2 3	4	FY 1998	81 £	1 2 FF	$\frac{\text{FY } 1999}{2}$	4
aircraft on Aircraft Approval Aircraft	*X *X	**	×		×					
(U) Engineering Milestones Rollout - First USAF Aircraft First Flight Vulnerability Assessment Complete Begin Live Fire Test Complete Live Fire Test * Denotes milestone completion	**	*				×	×			
Project 4025			Page 3 of 5 Pages	Pages			Exhibit	Exhibit R-2 (PE 0603852F)	03852F)	-
			2001							

RD	RDT&E PROGRAM EL	GRAM EL	EMENT/PROJECT	ROJEC	T COST E	3REAKD	COST BREAKDOWN (R-3)	3)	DATE	February 1997	67
вирсет Астилт 7 - Operational System Developmen	al System D	evelopmer	14		PE NUMBE 060385	PE NUMBER AND TITLE 0603852F C-130	PE NUMBER AND TITLE 0603852F C-130J Dem/Val			4	РКОЈЕСТ 4025
(U) A. Project Cost Breakdown (\$ in Thousands)	ost Breakdown	(\$ in Thousan	(SI								
				FY 1996		FY 1997	FY 1998	FY 1999	6		
(U) Live Fire Component Testing (as required) (U) Total	ponent Testing ((as required)			0 0	00	3,968		100		
(U) B. Budget Acquisition History and Planning Information (S in Thousands)	equisition Histor	y and Plannin	g Information	(\$ in Thous	ands)						
Performing Organizations:	nizations:										
Contractor or Government Performing	Contract Method/Type or Funding Vehicle	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Organizations Lockheed Martin NA	ent Organizations NA	s V V			NA						
Support and Management Organizations SPO PO Oct	gement Organizat PO	<u>tions</u> Oct 95			250			250			200
Test and Evaluation Organizations AFFTC PO TBD	1 Organizations PO	Oct 95			4,880			3,718			4,880
Project 4025					Page 4 of 5 Pages	res		Щ	Exhibit R-3 (DE 06038525)	060385251	
										1700000	

RDT&E PROGRAM ELEMENT/R	EMENT/PROJECT COST BREAKDOWN (R-3)	KDOWN (R-	(5)	DATE F6	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0603852F C-13	PE NUMBER AND TITLE 0603852F C-130J Dem/Val	_		9 4	PROJECT 4025
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	n Continued (S in Thousands)					
Government Furnished Property:						
Contract Method/Type Award or Item or Funding Obligation Delivery Description Vehicle Date Date	Total Prior to Bi FY 1996 FY	Budget Budget FY 1996 FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property N/A						
Support and Management Property N/A						
Test and Evaluation Property N/A						
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation						
Total Project						
Project 4025	Page 5 of 5 Pages		Exhi	Exhibit R-3 (PE_0603852F)	0603852F)	
	1809					

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PE NUMBER: 0702207F

UNCLASSIFIED

PE TITLE: Depot Maintenance (Non-If)

PE NUMBER AND TITLE 0702207F Depot Mair FY 1996 FY 1997 FY 1998 FY 2000	AND TITLE		T.	February 1997	766
FY 1996 FY 1997 FY 1998 FY 1999 FY 2000	- Depot Main	enance (Non			PROJECT 3326
Estimate Estimate	FY 2000 Estimate	FY 2001 FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3326 Precision Measurement & Calibration 1,414 1,377 1,482 1,530 1,566		1,602	1,629 1,667	1,667 Continuing	TBD
Quantity of RDT&E Articles 0 0 0 0 0 0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification

This program is in budget activity 7 - Operational System Development, Research Category 6.6 because it supports operational systems. This program develops, tests, Precision Measurement Equipment Laboratories (PMELs) worldwide. Metrology research and development provides technology to support systems in all phases of readiness objectives. This program addresses all metrology disciplines and includes the technology areas of laser, infrared, microwave, millimeter wave, mechanical, development and acquisition, as well as Air Force R&D laboratories, test ranges, ground test facilities, and operational weapons systems support. Rapidly changing and evaluates national and Air Force measurement standards and calibration equipment in support of all Air Force programs and activities, including over 120 base technology requires continuing research and development of measurement standards and calibration equipment to ensure modern weapon systems meet Air Force electrical, electronic, and ionizing radiation measurements.

foundation of military system development, quality assurance, hardware conformance testing and system readiness tests. The integrity of these tests is assured through capabilities of military systems. Lack of new measurement capability impedes or blocks the successful exploitation of new technologies, especially in the movement from development laboratory to production to deployment. R&D efforts are essential within the DoD to pace these requirements, otherwise, these same new systems Metrology is a technical discipline devoted to the science of measurements and to the study and improvement of measurement technology. Measurements are the calibration and traceability assurance schemes. The capability to measure and calibrate must parallel the emergence of new technology, new ranges, and new will suffer time delays, excessive cost, and increased risk due to unreliable test results in all phases of development, production, deployment and operation.

Project 3326

Page 1 of 6 Pages

Exhibit R-2 (PE 0702207F)

1811

R	RDT&E BUDGET ITEM JUSTIFICATIO	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fabricary 1997
BUDGET ACTIVITY 7 - Operational S	. Operational System Development	PE NUMBER AND TITLE 0702207F Depot Maintenance (Non-If)	
(U) FY 1996 (\$ in Thousands) - (U) \$125 Complete - (U) \$380 Continue system ca - (U) \$280 Continue Force rad - (U) \$230 Continue - (U) \$205 Complete of aircraft - (U) \$145 Complete accuracy - (U) \$145 Complete - (U) \$145 Complete - (U) \$145 Complete - (U) \$145 Complete - (U) \$1414 Total	d development d development d development d development ar cross-section d development components, a d development t to development t to development	of IR transmittance standards for IR weapon systems. Of pyroelectric radiometer standard and visible/IR detector standards for electro-optical weapon systems and radiometeds. Of microwave standards for noise figure measurements and improvement of accuracy and NIST traceability for Air test range measurements of low observable aircraft. Of power standards for microwave communication and radar systems. of efficient calibration methodologies for coordinate measuring machines (CMMs) used for measuring size and shape and continued identification and improvement of CMM measurement uncertainties. of DC voltage standards and continued to develop standards and measurement methods for the calibration of high quipment.	optical weapon systems and radiometer rracy and NIST traceability for Air As) used for measuring size and shape ies. I instrumentation.
- (U) \$620 - (U) \$391 - (U) \$191 - (U) \$132 - (U) \$43 - (U) \$1377	development of development of development of development of to support radar identification / i bration studies of development of t. i. develop nation	fradiance and irradiance detector standards and pyroelectric radiometer standard and continue development of national support Air Force infrared / laser / electro-optical weapon systems and support equipment. microwave standards for noise figure measurements, radar cross-section test range measurements, and high power and RF communication systems. mprovement of measurement uncertainty of CMMs used for dimensional measurements of aircraft components and of micro-machined pressure transducers used in aircraft engines. national standards for electrical resistance and high speed pulse measurements to support high accuracy electronic test national standards and NIST traceability for calibration of ionizing radiation hazard instrumentation.	d and continue development of national equipment. nge measurements, and high power rements of aircraft components and to support high accuracy electronic test instrumentation.
Project 3326	Pag	Page 2 of 6 Pages	Exhibit R-2 (PE 0702207F)

8	RDT&E BUDGET ITEM JUSTIFICATI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE Fehriary 1997
BUDGET ACTIVITY 7 - Operational	вирает астилт 7 - Operational System Development	PE NUMBER AND TITLE 0702207F Depot Maintenance (Non-If)	
(U) FY 1998 (\$ in Thousands) (U) \$663 Complete support A (U) \$399 Complete range mea (U) \$204 Continue (U) \$52 Continue (U) \$52 Continue (U) \$52 Continue (U) \$54 Continue (U) \$54 Continue (U) \$54 Continue (U) \$57 Continue (U) \$57 Continue (U) \$57 Continue (U) \$57 Continue (U) \$57 Continue (U) \$57 Continue (U) \$57 Continue (U) \$50 Continue (U) \$50 Continue (U) \$50 Continue (U) \$50 Continue (U) \$50 Continue (U) \$50 Continue (U) \$50 Continue	Complete development of improved blackbody calibrator for AF standards lab and continu support Air Force infrared / laser / electro-optical weapon systems and support equipment. Complete high power standards and continue development of microwave standards for noi range measurements to support radar and RF communication systems. Continue development of improved CMM measurement uncertainty and develop standards used in aircraft engines. Complete development of national standards for electrical resistance and continue develophigh accuracy electronic test equipment. Continue to develop national standards and NIST traceability for calibration of ionizing r Total 1. Thousands): Continue development of national measurement standards to support infrared / laser / elec Complete high power microwave standards and continue development of standards for rad cross-section range measurements. Continue development of improved calibration support for CMMs and for micro-machined constinue development of standards for electrical measurements to support high accuracy e Complete development of national standards for calibration of ionizing radiation hazard intental	Complete development of improved blackbody calibrator for AF standards lab and continue development of national measurement standards to support Air Force infrared / laser / electro-optical weapon systems and support equipment. Complete high power standards and continue development of microwave standards for noise figure measurements and radar cross-section test range measurements to support radar and RF communication systems. Continue development of improved CMM measurement uncertainty and develop standards to calibrate micro-machined pressure transducers used in aircent engines. Complete development of national standards for electrical resistance and continue development of high speed pulse measurements to support high accuracy electronic test equipment. Complete development of national standards and NIST traceability for calibration of ionizing radiation hazard instrumentation. Total Continue development of national measurement standards to support infrared / laser / electro-optical weapon systems and support equipment. Complete bligh power microwave standards and continue development of standards for radar support, RF communications systems, and radar cross-section range measurements. Complete high power not of standards for electrical measurements to support high accuracy electronic test equipment. Complete development of standards for electrical measurements to support high accuracy electronic test equipment. Complete development of national standards for calibration of ionizing radiation hazard instrumentation.	ntional measurement standards to nts and radar cross-section test achined pressure transducers pulse measurements to support mentation. ystems and support equipment. unications systems, and radar used in aircraft engines. ent.
Project 3326	A.	Page 3 of 6 Pages Exhibit	Exhibit R-2 (PE 0702207F)

RDT&E BUDGET ITEM JU	TEM JUSTIFICATION SHEET (R-2 Exhibit)	HS NOI	EET (R	-2 Exhil	oit)	DATE	February 1997	266
BUDGET ACTIVITY 7 - Operational System Development		PE NUI 0702	PE NUMBER AND TITLE 0702207F Depo	тте epot Mai	ртте Depot Maintenance (Non-If)	n-If)		PROJECT 3326
(U) B. Program Change Summary (S in Thousands)				-				
(U) Previous President's Budget (U) Appropriated Value	FY 1996 1463 1463	FY	<u>1997</u> 1444 1444	FY 1998 1494	FY 1999 1543	Total Cost TBD		
a. Cong Reductions b. SBIR	-28		-30 -37					
 c. Umnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recissions 	1.6-			٠ċ	r-			
(U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/FY 1998 PB	1414		1377	<i>-7</i> 1482	-6 1530			
(U) Change Summary Explanation: Funding: None Schedule: None Technical: None								
(U) C. Other Program Funding Summary (\$ in Thousands)	ସ							
(U)	6 FY 1997	FY 1998	FY 1999	FY 2000	FY 2001 FY	FY 2002 FY 2003	To 03 Complete	Total Cost
(U) D. Schedule Profile								
(U) $\frac{\text{FY } 1996}{2}$	96 3 4	$\frac{FY}{2}$	FY 1997 2 3	4 L	FY 1998 2 3	4	FY 1999 2 3	4
Project 3326		Page 4 of 6 Pages	Pages			xhibit R-2 (P	Exhibit R-2 (PE 0702207F)	

Commence Contract	RDT8	RE PROC	RDT&E PROGRAM EL	EMENT/	ROJEC	EMENT/PROJECT COST BREAKDOWN (R-3)	BREAKD	OWN (R	3)	DATE	February 1997	766
15th Thousands EY 1996 EY 1997 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1999 EY 1997 EY 1999 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1997 EY 1998 EY 1998 EY 1997 EY 1998	SUDGET ACTIVITY 7 - Operational \$	System De	evelopmer	ıt.		PE NUMBI 07022(ER AND TITLE	t Maintens	Ince (Non-			РРОЈЕСТ 3326
ards & Calibration Support 1394 1356 1400 1507 20 21 22 23 20 21 22 23 20 21 22 23 1414 1377 1482 1530 150 1577 1482 1530 150 150 150 150 150 150 150 150 150 150 150 150 151 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 150 15	U) A. Project Cost I	Breakdown (S in Thousand	<u>(§)</u>								
ards & Calibration Support 1394 1356 1460 1507 20 21 22 23 1414 1377 1482 1530 Dry and Planning Information (\$in Thousands) Award or Obligation Obligation Performing Office Prior to Prior to Performing Office Prior State (\$FY 1996] FY 1996 FY 1996 FY 1996 FY 1996 FY 1996 FY 1996 FY 1998 F 1st QTR TBD TBD 77 20 21 22 ations ations Agricus TBD TBD 77 20 21 22 ations					FY 1		Y 1997	FY 1998	FY 1990	6		
ry and Planning Information (\$\text{in Thousands})\$ Award or Performing Project Total Obligation Activity Office Prior to Budget FY 1996 FY 1996 FY 1997 FY 1998 E 184 QTR TBD TBD 9560 1394 1356 1460 Various TBD TBD 777 20 21 22 attions	U) Develop MeasurerU) TravelU) Total	ment Standarc	ds & Calibratic	n Support		394 20 414	1356 21 1377	1460 22 1482	150' 2: 153(3 3 7 5		
Award or Performing Project Total Obligation Activity Office Prior to Budget Budget Budget EAC EAC FY 1996 FY 1996 FY 1997 FY 1998 E Ist QTR TBD TBD 9560 1394 1356 1460 Various TBD TBD 77 20 21 22 ations	U) B. Budget Acquis	sition Histor	y and Plannin	g Information	(S in Thous	(spur						
Award or Performing Project Total Budget Budget Budget Budget Budget EAC EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC FY 1996 FY 1997 FY 1998 EAC	erforming Organizat	tions:										
1st QTR TBD 9560 1394 1356 1460 Various TBD TBD 77 20 21 22 ations	·	ontract lethod/Type Funding	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
1st QTR TBD TBD 9560 1394 1356 1460 Various TBD TBD 77 20 21 22	roduct Development C	<u>Organizations</u>										
Various TBD TBD 77 20 21	titute 3 &	inds ansfer	1st QTR	TBD	TBD	0956	1394	1356	1460	1507	Continue	TBD
Support and Management Organizations Test and Evaluation Organizations		House	Various	TBD	TBD	77	20	21	22	23	Continue	TBD
Test and Evaluation Organizations	upport and Manageme	ent Organizati	ons									
	est and Evaluation Org	ganizations										
Project 3326 Pages Exhibit B-3	roject 3326				I	age 5 of 6 Pag	səž		Exhi	Exhibit R-3 (PE 0702207F)	0702207E)	

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RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	LEMENT/PROJ	ECT COST B	REAKDO	WN (R-		DATE F	February 1997	766
BUDGET ACTIVITY 7 - Operational System Development	ent	PE NUMBER AND TITLE 0702207F Depo	AND TITLE F Depot	PE NUMBER AND TITLE 0702207F Depot Maintenance (Non-If)	nce (Non-	(J)		РРОЈЕСТ 3326
(U) B. Budget Acquisition History and Planning Information Continued (S in Thousands)	ning Information Contin	ued (\$ in Thousands)						
Government Furnished Property: N/A								
Contract Method/Type Award or Item or Funding Obligation Description Vehicle Date	n Delivery <u>Date</u>	Total Prior to FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total <u>Program</u>
Product Development Property								
Support and Management Property								
Test and Evaluation Property								
Subtotal Product Development Subtotal Support and Management Subtotal Test and Evaluation		9637	1414	1377	1482	1530	Continue	TBD
Total Project		7649	1414	1377	1482	1530	Continue	TBD
Project 3326		Page 6 of 6 Pages	S	i	Щ.	ibit R-3 (PE	Exhibit R-3 (PE 0702207F)	

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PE NUMBER: 0708011F

PE TITLE: Industrial Preparedness

UNCLASSIFIED

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HET (F	?-2 Exhi	bit		DATE		
BUDGET ACTIVITY						,		rei	repruary 1997	197
7 - Operational System Development	ţ		070	PE NUMBER AND TITLE 0708011F Indus	πι∟Ε ndustrial	PE NUMBER AND TITLE 0708011F Industrial Preparedness	lness		<u> </u>	PROJECT 2865
COST (\$ In Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	EV 2000	EV 2004	0000 71			
(2010)	Actual	Estimate	Estimate	Estimate	Estimate	Estimate	Estimate	FY 2003 Estimate	Complete	Total Cost
2865 Indiistrial Preparedness Manifordinia								_	2004	
Technology	57,040	50,632	48,429	45,923	42,749	40,455	40,194	39,856	39,856 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	c	-		
			-				•	>	5	5

(U) A. Mission Description and Budget Item Justification: This is in Budget Activity 7 - Operational System Development, Research Category 6.6, because it provides manufacturing process technologies, manufacturing engineering systems, and industrial practices and transitions these pervasive advancements into all design, development, acquisition, and/or sustainment programs. The program provides cost reduction processes and practices and new manufacturing capabilities applicable to existing and new development through increased emphasis on cost, time, and quality risks in transition. Best processes are evaluated and adapted for application. Where mature processes Technology Transfer (CATT) effort in FY 1996 and \$3.0 million for a general program increase in FY 1997 which explains the perceived decrease in FY 1997 and out. programs. The program strives to make superior mission enabling technologies an affordable life cycle reality by expanding access to a capable, responsive, multi-use are not available, laboratory-developed initial process capabilities are matured and inserted into all programs. The MANTECH program goes beyond the factory floor manufacturing/repair processes to encompass every activity within an industrial enterprise, ranging from above the shop floor activities (including tools for integrating applications. Project efforts address and target all industry levels, from large prime contractors to small material and parts vendors. Program efforts also enhance the product process development (IPPD)) to supplier base interactions and performance. The strategies and best practices of world-class enterprises are analyzed and the support to systems in production and/or in operational use. The Manufacturing Technology (MANTECH) program establishes and demonstrates advancements in industrial base with efficiencies comparable to world-class enterprises. Program efforts accelerate shop floor manufacturing process maturation at every stage of organic repair/remanufacture capability to affordably sustain the aging weapon systems inventory. Note: Congress added \$7.6 million for the Computer-Assisted performance of defense suppliers benchmarked. The world's best industrial practices are adapted and validated in multiple pilot projects and deployed in defense

(U) FY 1996 (\$ in Thousands):

- manufacture of defense systems. Established and demonstrated electronic data exchange concepts and tools and their applications in affecting Demonstrated integrated product/process development tools capable of affecting reduced cost and accelerated cycle time in the design and networked enterprise relationships, product producibility, manufacturing systems interoperability, and technology affordability - (U) \$15,355
- (U) Continued effort to establish and demonstrate the methodologies and tools for the capture of tester-independent test requirements to reduce the warfighter's systems life cycle cost burden.
- ·(U) Continued effort to demonstrate a product definition management system which spans bills of material in multiple production environment.

Project 2865

Page 1 of 8 Pages

Exhibit R-2 (PE 0708011F)

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1	RDT&E BUDGET ITEM JUSTIFICATIOI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational 9	BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708011F Industrial Preparedness	PROJECT 2865
- (U) \$8,469	Facilitated process maturation and standardization for military unique modules, sensors, arrays, solar cells, automatic test systems, and devices to enable the low-risk, affordable utilization of mission enabling technologies. Established and demonstrated process modeling and statistical process control metrics for electronics systems components, materials, test, and inspection techniques.	litary unique modules, sensors, arrays, solar cells, aut bling technologies. Established and demonstrated pro rials, test, and inspection techniques.	tomatic test systems, and devices to ocess modeling and statistical process
- (U) \$7,793	 (U) Continued effort to establish a manufacturing process to produce affordable tactical grade fiber optic gyroscopes. (U) Demonstrated electronic manufacturing process improvements for low-cost ferrite circulators and for maintenance-free batteries. (U) Initiated manufacturing efforts on multi-bandgap solar cells for spacecraft to complement Phillips Laboratory development effort. Established and demonstrated advanced processes for metal material manufacturing. Facilitated process maturation to accelerate affordable, low-risk exploitation of mission enabling technologies. Established process control and improvement aimed at reducing product variability with special emphasis laced on process considerations in the design phase. Achieved industrial base risk reduction by promulgating critical process 	iss to produce affordable tactical grade fiber optic gyr provements for low-cost ferrite circulators and for ma viar cells for spacecraft to complement Phillips Labor vial material manufacturing. Facilitated process matur ilished process control and improvement aimed at red tesign phase. Achieved industrial base risk reduction	roscopes. aintenance-free batteries. atory development effort. ration to accelerate affordable, low- lucing product variability with by promulgating critical process
065'8\$ (0) -	echnologies. (U) Established manufacturing capacity for large welded titanium assemblies for fighter aircraft. (U) Demonstrated thin-wall casting manufacturing process for turbine engines leading to product validation. Established integrated process/product capabilities for the design and manufacture of mission enabling, low-cost composite structures. Facilitated process maturation to accelerate expanded composites utilization. Demonstrated in situ process control and closed-loop improvement capabilities. Achieved industrial base risk reduction by facilitating enhanced composites affordability.	d titanium assemblies for fighter aircraft. ess for turbine engines leading to product validation. e design and manufacture of mission enabling, low-co llization. Demonstrated in situ process control and cl hanced composites affordability.	ost composite structures. Facilitated losed-loop improvement capabilities.
· (U) \$16,833	 (U) Demonstrated rapid manufacture of thermoplastic ramose spare parts for special purpose aircraft. (U) Validated reproducible and affordable processes for the manufacture of multi-functional structures for fighter aircraft. Benchmarked world-class enterprise processes and practices aimed at identifying capabilities and/or approached for reducing cycle time and at eliminating waste and inefficiencies. Conducted pathfinder and pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, supplier improvements, and integrated product/process 	manufacture of thermoplastic ramose spare parts for special purpose aircraft. ible and affordable processes for the manufacture of multi-functional structures for fils enterprise processes and practices aimed at identifying capabilities and/or approach efficiencies. Conducted pathfinder and pilot efforts in high-payoff endeavors aimed anufacturing, commercial military integration, quality processing, supplier improvementations.	ghter aircraft. ed for reducing cycle time and at at validating potential benefits ents, and integrated product/process
- (U) \$57,040	development (U) Continued pilot efforts to demonstrate manufacture of military electronics components on a commercial line (U) Continued effort to implement Lean Aircraft Initiative findings in support of fighter and tactical missile Air F Total	orts to demonstrate manufacture of military electronics components on a commercial line. implement Lean Aircraft Initiative findings in support of fighter and tactical missile Air Force needs.	line. Air Force needs.
Project 2865	Pag	Page 2 of 8 Pages Exh	Exhibit R-2 (PE 0708011F)

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RD.	RDT&E BUDGET ITEM JUSTIFICATIO	M JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational Sy	3UDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708011F Industrial Preparedness	
(U) \$37,30 Esta Establis propuls, high-paquality (IPPD); (IPPD); (IPPD); (IPPD); (U) C. (U) D. (U) C. (U) Establis compability (IPPD); (U) C. (U) Establis compability (IPPD); (U) C. (U) Esta Establis compability (IPPD); (U) C. (U) Missiles. (U) Imissiles. (U) C	in and demonstrate ion, and demonstrate ion, and electronic yoff endeavors air processing, and su tools. Itiate effort to valies. Itiate effort to respect to reading the capability and demonstrate form the sable to rapidly maplete effort to prablish metal form iss. In and demonstrate effort to every in and demonstrate is entry propulsion more in the transition preciting potential benefined propulsion more to transition preciting potential benefined in the transition preciting potential benefined in the transition preciting potential benefined in the transition preciting potential benefined in the transition maplete effort to enable is systems.	cost-effective and efficient manufacturing technologies for critical, high quality, reliable structural, components and assemblies required for existing and next generation aircraft. Conduct pilot efforts in the at a validating potential benefits accrued from flexible manufacturing, commercial military integration, pplier improvements. Conduct long-term projects focused on integrated product process development date revolutionary concepts for manufacture of "all composite" vehicles at cost of 50% of alternate duce investment casting manufacturing costs by 50%, focusing on the gas turbine engine supplier base. Affordable production of multifunctional radones for fighters, achieving a 30% manufacturing cost reduction. Bity to reproducibly babricate affordable, high performance rugate configes for opicial components. cost-effective repair and remanufacturing technologies to affordably sustain existing weapon systems and separed setable affordable, high performance cycle time for aging systems and establish remanufacturing seemologies to affordably sustain existing weapon systems and separed setable affordable processes for logistics centers to generate standardized replacement parts on denand. The content of ALCs with the tools needed to prepare spare parts provuement packages, ing simulation remanufacturing processes for logistics centers to generate standardized replacement the acrospace depot maintenance support infrastructure into a world class nable the ALCs to efficiently design and develop a composite secondary structure by providing an automated drafting efficient and cost-effective manufacturing methods for high performance, high reliability electronics, lightweight structures, goulded munitions subsystems into production. Conduct plot efforts in high-payoff endeavors aimed afflordable manufacture of ballistic wind sensors for use in munitions targeting and/or wind shear in gripplement lean benchmark findings by demonstrating a modular factory approach to the manufacture of missile	ality, reliable structural, ft. Conduct pilot efforts in umercial military integration, duct process development ost of 50% of alternate rbine engine supplier base. /// manufacturing cost reduction. r optical components. existing weapon systems and sh remanufacturing arts procurement packages. undardized replacement ture into a world class cture by providing an automated drafting gh reliability electronics, lightweight strn s iigh-payoff endeavors aimed c gyroscopes in support of argeting and/or wind shear argeting and/or wind shear
Project 2865	Pag	Page 3 of 8 Pages	Exhibit R-2 (PE 0708011F)

RD	RDT&E BUDGET ITEM JUSTIFICATION	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE ESPECIAL TOOS
BUDGET ACTIVITY 7 - Operational System Developmen	stem Development	PE NUMBER AND TITLE 0708011F Industrial Preparedness	PROJECT 2865
- (U) \$2,816 Es spin ele	Esta Establish and demonstrate affordable, flexible manspace spacecraft and launch vehicles. Establish effective elec electronic components and assemblies required for pilot efforts in high-payoff endeavors aimed at provents systems in the space, launch, and command, controculy Continue process refinement phase of effort to bandgap solar cells. - (U) Initiate activity defining benchmarking approximate.	 (U) \$2,816 Esta Establish and demonstrate affordable, flexible manufacturing processes to reduce the cost and lead time of higher performance space spacecraft and launch vehicles. Establish effective and efficient manufacturing technology for critical high quality, reliable elec electronic components and assemblies required for surveillance, tracking communications links, and data/signal processing. Conduct pilot pilot efforts in high-payoff endeavors aimed at providing an efficient, low-cost capability to produce components and weapon systems in the space, launch, and command, control, communications, and integration (C3I) industrial base sectors. (U) Continue process refinement phase of effort to establish manufacturing processes for affordable power-efficient, space-qualified multibandgap solar cells. (U) Initiate activity defining benchmarking approach for applying lean principles to space and launch industry sector. 	higher performance h quality, reliable signal processing. Conduct pilot bonents and weapon e sectors. er-efficient, space-qualified multi-lustry sector.
(U) <u>FY 1998 (\$ in Thousands)</u> ; - (U) \$34,589 Establicompo potenti Conductor	Establish and demonstrate cost-effective manufacturing technologies for critical, high quality, relicomponents and assemblies required for existing and next generation aircraft. Conduct pilot effor potential benefits accrued from flexible manufacturing, commercial military integration, quality potential benefits accrued from flexible manufacturing, commercial military integration, quality conduct long-term projects focused on integrated product and process development (IPPD) tools. -(U) Complete pilot effort to demonstrate manufacturing development and management of supplier in producing critical defense products. -(U) Initiate pilot effort to demonstrate manufacturing technologies to affordability enhance mission readiness. Reduce repair and remanufacturing technologies to affordability enhance mission readiness. Reduce repair and maintenance cycle time for aging systems and estarapidly generate standardized replacement parts on demand. -(U) Complete effort to establish and demonstrate the capability to capture electronic device test requipment, thereby, reducing the warfighter's systems life cycle burden. -(U) Initiate effort such as large area structural repair to establish process improvements for repa aircraft. -(U) Initiate effort to address the issue of electronics parts obsolesence.	Establish and demonstrate cost-effective manufacturing technologies for critical, high quality, reliable structural, propulsion, and electronic components and assemblies required for existing and next generation aircraft. Conduct pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, and supplier improvements. Conduct long-term projects focused on integrated product and process development (IPPD) tools. -(U) Complete pilot effort to demonstrate manufacture of military electronics components on a commercial line(U) Initiate pilot effort to demonstrate manufacturing development and management of supplier processes, and to implement lean technologies in producing critical defense products. -(U) Complete methodology effort that will establish functional electronic specifications critical to expanded product life. Establish and demonstrate cost-effective repair and remanufacturing technologies to affordability sustain existing weapon systems and to enhance mission readiness. Reduce repair and maintenance cycle time for aging systems and establish remanufacturing capabilities able to rapidly generate standardized replacement parts on demand. -(U) Complete effort to establish and demonstrate the capability to capture electronic device test requirements independent of specific test equipment, thereby, reducing the warfighter's systems life cycle burden. -(U) Initiate effort to address the issue of electronics parts obsolesence.	ctural, propulsion, and electronic h-payoff endeavors aimed at validating g, and supplier improvements. al line. s, and to implement lean technologies led product life. xisting weapon systems and to tanufacturing capabilities able to ents independent of specific test ufacture of aging
Project 2865	Pc	Page 4 of 8 Pages Exh	Exhibit R-2 (PE 0708011F)

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RD	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE
BUDGET ACTIVITY 7 - Operational System Developmer		PE NUMBER AND TITLE 0708011F Industrial Preparedness	rebruary 1997 PROJECT S 2865
- (U) \$2,575 - (U) \$2,669 - (U) \$48,429	Establish and demonstrate cost-effective repair and remanufacturing technologies systems and to enhance mission readiness. Reduce repair and maintenance cycle caspabilities able to rapidly generate standardized replacements parts on demand. - (U) Continue effort to establish large area structural repair capability for aging 3-(U) Continue effort on lean implementation of turbine engine blade tip repair to Establish and demonstrate affordable, flexible manufacturing processes to reduce launch vehicles. Establish effective and efficient manufacturing technology for cassemblies required for surveillance, tracking communications links, and data/sig aimed at providing an efficient, low-cost capability to produce components and w communications, and integration (C31) industrial base sectors. - (U) Initiate process validation phase of effort to establish manufacturing process bandgap solar cells. - (U) Continue effort to infuse lean principles into the defense space industry and industry sector.	Establish and demonstrate cost-effective repair and remanufacturing technologies to affordably sustain existing weapon caspabilities able to rapidly generate standardized replacements parts on demand. - (U) Continue effort to establish large area structural repair capability for aging aircraft and to address the issue of electronics parts obsolesence. - (U) Continue effort on lean implementation of turbine engine blade tip repair to cut repair costs and reduce scrap by 30%. Establish and demonstrate affordable, flexible manufacturing processes to reduce the cost and lead time of higher performance spacecraft and launch vehicles. Establish effective and efficient manufacturing technology for critical high quality, reliable electronic components and assemblies required for surveillance, tracking communications links, and data/signal processing. Conduct pilot efforts in high-payoff endeavors communications, and integration (C31) industrial base sectors. - (U) Initiate process validation phase of effort to establish manufacturing processes for affordable power efficient, space-qualified multibandgap solar cells. - (U) Continue effort to infuse lean principles into the defense space industry and initiate pilot efforts on lean concepts in the space and launch rotal	existing weapon s and establish remanufacturing the issue of electronics parts obsolesence cduce scrap by 30%. of higher performance spacecraft and liable electronic components and uct pilot efforts in high-payoff endeavors space, launch, and command, control, er efficient, space-qualified multi-
(U) FY 1999 (\$ in Thousands): - (U) \$26,377 Establis electron validati improve (U) CC - (U) CC - (U) CC - (U) CC - (U) Inj (U) CC - (U) Inj (U) CC - (U) CC	Establish and demonstrate cost-effective and efficient manufacturing technologies for critical, high electronic components and assemblies required for existing and next generation aircraft. Conduct partial potential benefits accrued from flexible manufacturing, commercial military integration, improvements. Conduct long-term projects an integrated product and process development (IPPD) - (U) Continue effort to reduce investment casting manufacturing costs by 50%, focusing on the gar - (U) Continue effort to validate revolutionary approaches for manufacture of "all composite" air v - (U) Initiate effort to improve manufacturing process understanding and reduce process variability.	Establish and demonstrate cost-effective and efficient manufacturing technologies for critical, high quality, reliable structural, propulsion, and electronic components and assemblies required for existing and next generation aircraft. Conduct pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, and supplier improvements. Conduct long-term projects an integrated product and process development (IPPD) tools. - (U) Continue effort to reduce investment casting manufacturing costs by 50%, focusing on the gas turbine engine supplier base (U) Continue effort to validate revolutionary approaches for manufacture of "all composite" air vehicles at costs of 50% alternative structures (U) Initiate effort to improve manufacturing process understanding and reduce process variability.	ity, reliable structural, propulsion, and efforts in high-payoff endeavors aimed at ity processing, and supplier s. Sie of the supplier base. Se at costs of 50% alternative structures.
Project 2865	Pa	Page 5 of 8 Pages	Exhibit R-2 (PE 0708011F)

RD	RDT&E BUDGET ITEM JUSTIFICATION	EM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational Sys	- Operational System Development	PE NUMBER AND TITLE 0708011F Industrial Preparedness	PROJECT 2865
- (U) \$10,504	Establish and demonstrate cost-effective repair and remanufacturing technologies to afforomission readiness. Reduce repair and maintenance cycle time for aging systems and establigenerate standardized replacements parts on demand. - (U) Continue effort to establish large composite patch repair capability for aging aircraft. - (U) Initiate effort to address the issue of electronics parts obsolescence.	Establish and demonstrate cost-effective repair and remanufacturing technologies to affordably sustain existing weapon systems and to enhance mission readiness. Reduce repair and maintenance cycle time for aging systems and establish remanufacturing capabilities able to rapidly generate standardized replacements parts on demand (U) Continue effort to establish large composite patch repair capability for aging aircraft (U) Initiate effort to address the issue of electronics parts obsolescence.	ng weapon systems and to enhance ng capabilities able to rapidly
- (U) \$3,051	 (U) Continue effort on lean implementation of turbine (U) Initiate manufacturing processing effort to imprementablish and demonstrate efficient and cost-effective structures, and efficient propulsion methods for advar precision guided munitions subsystems into production accrued from flexible manufacturing, commercial mile. (U) Continue effort to enable the affordable manufacturing. 	 (U) Continue effort on lean implementation of turbine engine blade tip repair to cut repair costs and reduce scrap by 30%. (U) Initiate manufacturing processing effort to improve the high cycle fatigue performance of turbine engine components. Establish and demonstrate efficient and cost-effective manufacturing methods for high performance, high reliability electronics, lightweight structures, and efficient propulsion methods for advanced tactical missiles. Establish manufacturing improvements required to transition precision guided munitions subsystems into production. Conduct pilot efforts in high-payoff endeavors aimed at validating potential benefits accrued from flexible manufacturing, commercial military integration, quality processing, and supplier improvements. (U) Continue effort to enable the affordable manufacture of hallistic wind sensor for use in munitions effort to enable the affordable manufacture of hallistic wind sensor for use in munitions. 	e components. iability electronics, lightweight iments required to transition and a validating potential benefits overnents.
– (U) \$5,991	systems Establish and demonstrate affordable, flexible manufacturing launch vehicles. Establish effective and efficient manufacturin assemblies required for surveillance, tracking communications aimed at providing an efficient, low-cost capability to produce communications, and integration (C3I) industrial base sectors. - (U) Complete effort to establish manufacturing processes for	Establish and demonstrate affordable, flexible manufacturing processes to reduce the cost and lead time of higher performance spacecraft and alaunch vehicles. Establish effective and efficient manufacturing technology for critical high quality, reliable electronic components and assemblies required for surveillance, tracking communications links, and data/signal processing. Conduct pilot efforts in high-payoff endeavors aimed at providing an efficient, low-cost capability to produce components and weapon systems in the space, launch, and command, control, communications, and integration (C3I) industrial base sectors. - (U) Complete effort to establish manufacturing processes for affordable power-efficient, space-qualified multi-bandgap solar cells.	gher performance spacecraft and electronic components and lot efforts in high-payoff endeavors, launch, and command, control, alti-bandgap solar cells.
- (U) \$45,923	 (U) Continue Lean Space Initiative. (U) Initiate Lean Space implementation pilots. Total 		
Project 2865	Pag	Page 6 of 8 Pages Exhibi	Exhibit R-2 (PE 0708011F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	FICATION	SHEET (F	2-2 Exhibit		DATE February 1997	7
BUDGET ACTIVITY 7 - Operational System Development	id 0	PE NUMBER AND TITLE 0708011F Indus	PE NUMBER AND TITLE 0708011F Industrial Preparedness	paredness	PROJEC 2865	РКОЈЕСТ 2865
(U) B. Program Change Summary (\$ in Thousands):					Total	
(U) Appropriated Value	FY 1996 57,945 60,932	FY 1997 49,969 52,969	FY 1998 51,851	FY 1999 51,811	Cont	
a. Congressional/General Reductions b. SBIR c. Omnibus/Other Above Threshold Reprogrammings d. Below Threshold Reprogrammings	-1,181 -1,150 -1,617 +56	-1,145 -1,143 -49				
(U) Adjustments to Budget Years (U) Current Budget Submit/FY 1998 PB	57,040	50,632	-3,422 48,429	-5,888 45,923	Cont	
(U) Change Summary Explanation: Funding: Changes since the previous President's Budget are due to budget constraints and Air Force priorities.	due to budget co	onstraints and A	ir Force prioritie	غد غد		
Schedule: Not Applicable.						
Technical: Not Applicable.						
(U) C. Other Program Funding Summary: Not Applicable.						
(U) D. Schedule Profile: Not Applicable.						
						-
Project 2865	Page 7	Page 7 of 8 Pages		Exh	Exhibit R-2 (PE 0708011F)	

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Page 8 of 8 Pages Exhibit R-2 (PE 0708011F)

PE NUMBER: 0708026F

UNCLASSIFIED

PE TITLE: Product/Reliable/Avail/Maintain Prog

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fel	February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	t.		PE NU 070	PE NUMBER AND TITLE 0708026F Prod	TITLE roduct/R	eliable/A	vail/Mair	PE NUMBER AND TITLE 0708026F Product/Reliable/Avail/Maintain Prog		РRОЈЕСТ 2146
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
2146 Productivity, Reliability, Availability, Maintainability (PRAM)	16,840	15,842	1,032	066	991	31,488	31,705	32,115	32,115 Continuing Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description and Budget Item Justification
PRAM addresses acute reliability and maintainability (R&M) deficiencies by funding prototypes of developing and mature, commercial off-the-shelf technologies that can funding program, depends on MAJCOM and field support to implement the technology when the initial investment is completed. Listed below are projects being pursued be incorporated into existing AF weapon systems and subsystems. The objective of this program is to emphasize the rapid incorporation of R&M technology "fixes" that strategically focus technology application/insertion for the Air Force's future needs. A periodic review for all projects is held to ascertain the opportunity for success of those currently underway and to select new projects. This program in budget activity 7, Operational Systems Development, because projects are being engineered for already operational weapon systems. Congress provided \$3,000 thousand for Blade Tip Repair Program which is currently on withhold by OSD. will improve the operational capability of weapon systems and equipment at a significantly lower cost. Average project length is twenty-seven months. This program constitutes one of the most cost effective programs within the Air Force, with a proven return on investment for the entire program averaging 5:1. PRAM, a level-ofas identified by the Air Force Materiel Command (AFMC) Technology Master Process (TMP) as they apply to the PRAM Program. The objective of the TMP is to

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Project 2146

Exhibit R-2 (PE 0708026F)

	RD	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE	February 1997
BUDGET ACTIVITY 7 - Operatio	गा∀ ional S∖	- Operational System Development	IICt/Reliable/Avail/Maintain E	PROJECT 2446
	6200	Start and Commission for the feel commission of the start and Commission for the start and Commission of the start		4140
(o) 1	\$2,039	Start and Compute the following Quick Response Projects: Cable Wrap 1 ester, Jig Borer to Jig Grinder, Sloping Longeron, Real-Time Multiple Signal Processor, Composite Engine Cowl Doors, USM - 601, Heat Exchanger Replacement, and Robot Eyes, USM-464 and Wet Cell Battery	rt, Jig Borer to Jig Orinder, Sloping Longeron, Re r Replacement, and Robot Eyes, USM-464 and W	al-Time Multiple et Cell Battery
(I) -	\$200	Cart Replacement. Complete Advanced Magnetic Azimuth Detector		
(E) -	\$100	Complete Thin Dense Chrome Bearings.		
(<u>n</u>) -	\$55	Complete Compressor and Turbine Balancing.		
(D) -	\$400	Complete Testable and Monitorable Modular Mission Computer.		
9	\$350	Complete Laser Ultrasonic Inspection System.		
99	\$300	Complete Combustor Rework Cell. Complete Joint MAJCOM Paint Project		
(E)	\$700	Complete C-141 Electric Starlifter		
(D) -	\$1,900	Upgrade Nuclear Reactor at Sacramento Air Logistics Center (SM-ALC).		
\$ (n) -	\$16,840	Total		
(U) FY 1997	<u> 266</u>			
(n) -	\$5,292	Complete activity on EVS Data Presentation Group, Advanced Hybrid Oxygen System, Next Generation Munitions Handler, Reusable Software	1 System, Next Generation Munitions Handler, Ro	eusable Software
		for Spacecraft, Combination Generator Air Conditioner, Solid State High Band Generator, Fiber Optic Rate Gyro, Recore of Primary/Secondary	Generator, Fiber Optic Rate Gyro, Recore of Pri	imary/Secondary
<u>_</u>	\$498	The TMP will review needs and funding during 2nd Orr FV96 to consider future projects. The TMP will identify potential projects with the	le bus Standardization initiative. re projects. The TMP will identify notential proj	oote with the
· ·		highest payback in terms of operational capability, reliability and maintainability improvement, and cost for execution. Ouick response projects	ity improvement, and cost for execution. Ouick	response projects
		will be started immediately and continuously throughout FY 97 as needs evolve.		cupiford powedon.
	\$1,550	Aging Aircraft Initiatives in Corrosion, Composites, and Repair.		
(D) -	\$300	Continue Composite Mobile Maintenance Stands.		
(D) -	\$500	Continue Inflatable Overwing Fairing Seals.		
() 	\$700	Continue Bird Proof Canopy.		
9	\$700	Continue Durability Patch		
(<u>Q</u>) -	\$2	C-141 Electric Starlifter		
(D) -	\$700	Planar Optics Display		
(<u>(</u>)	\$500	Start and Complete Low Observable Field Tester		
() ()	\$500	H-1 Heater Replacement Project.		
_	\$450	ALK-20 ranoranic indicator CMBRE Tester		
(<u>(</u>)	\$100	System 2000 Maintainer Project.		
Project 2146		Page 2 of 4 Pages	Exhibit R-2 (PE 0708026E)	026F)
			>>	7 10.70

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET (R-2 Exhibit)	DATE Febru	February 1997
Š	PE NUMBER AND TITLE 0708026F Prod) ТІТLE Product/Reliable//	PE NUMBER AND TITLE 0708026F Product/Reliable/Avail/Maintain Prog	РRОЈЕСТ 2146
– (U) \$3,000 Blade Tip Repair Project - Congressional Add – (U) \$15,842 Total				
(U) FY 1998 — (U) \$1,032 Complete activity on Durability Patch, Nickel-Hydrogen Battery, Bird Proof Canopy, Planar Optics Display, Composite Mobile Maintenance Stands H-1 Heater Replacement Project and Inflatable Overwing Fairing Seals	/drogen Battery, Bird P	oof Canopy, Planar Opti	cs Display, Composite Mobile	Maintenance
- (U) \$1,032 Total	ididolo Ovol Wing I dil ii.	g Coars.		
(U) <u>FY 1999</u> – (U) \$990 The TMP will review needs and funding during 2nd Qtr FY98 to consider future projects. The TMP will identify potential projects with the highest payback in terms of operational capability, reliability and maintainability improvement, and cost for execution, but quick response projects will imdoubtedly require the full \$005 thousand of funding	and Qtr FY98 to consider, reliability and mainta	r future projects. The Ti inability improvement, a	MP will identify potential projn nd cost for execution, but qui	ects with the ck response
projects with discontinuous fedutie file full \$750 th	ousaid of full lig.			
(U) B. Program Change Summary (§ in Thousands)				
ΙΉ	ഥ	FY		
(U) FY97 President's Budget	14,290 13,564 15,865 16,564	14,240 14,	14,899 Continuing	
opriated Value				
	-308 -346	4-	ئ-	
b. Small Business Innovative Research	-376			
Below Threshold Reprogramming	+1,899			
e. Rescissions (II) Adjustments to Budget Vears since BV07 DR	-304	700 21- 700 21-	004	
	16,840 15,842	Î	990 Continuing	
 (U) Change Summary Explanation: Funding: \$1,899 thousand added in FY 96 to fund upgrade of Nuclear Reactor facility at Sacramento Air Logistics Center. FY98-99 reductions will cause postponement of projects that increase reliability and maintainability and warfighter capability. \$3,000 thousand added by Congress for FY 97 work on Bls Tip Repair Project. 	Vuclear Reactor facility oility and warfighter cap	at Sacramento Air Logist ability. \$3,000 thousand	Y 96 to fund upgrade of Nuclear Reactor facility at Sacramento Air Logistics Center. FY98-99 reductions will cause reliability and maintainability and warfighter capability. \$3,000 thousand added by Congress for FY 97 work on Blade	ns will cause work on Blade
Schedule: None.				
Project 2146	Page 3 of 4 Pages		Exhibit R-2 (PE 0708026F)	026F)

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET (R-2 Exhibit)	DATE Eshinam 4007	7007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708026F Product/Reliable/Avail/Maintain Prog	ual y	PROJECT 2146
Technical: None.			
(U) C. Other Program Funding Summary (S in Thousands) Not applicable.			
(U) D. Schedule Profile Not applicable.			
Project 2146	Page 4 of 4 Pages Exhib	Exhibit R-2 (PE 0708026F)	

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PE NUMBER: 0708611F

UNCLASSIFIED

PE TITLE: Support Systems Development (SSD)

	RDT&E BUDGET IT	EM JUS	TIFICA	TION S	HEET (F	TEM JUSTIFICATION SHEET (R-2 Exhibit)	bit)		DATE FeI	February 1997	26
) - Z	BUDGET ACTIVITY 7 - Operational System Development			PE NI 070	PE NUMBER AND TITLE O708611F Supp	ттге Jupport S	PE NUMBER AND TITLE O708611F Support Systems Development (SSD)	Jevelopn	nent (SSI	6	
	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
	Total Program Element (PE) Cost	5,454	8,107	3,657	3,767	3,913	12,407	6,122	6,261	Continuing	Continuing
3090	3090 Embedded Computer Resources Support Improvement Program (ESIP)	3,072	2,913	2,207	2,391	2,488	7,489	3,576	3,657	Continuing	Continuing
3318	3318 Product Data Systems Modernization (PDSM)	1,923	1,933	1,450	1,376	1,425	4,918	2,546	2,604	Continuing	Continuing
3759	3759 Air Force Support Equipment Management (AFSEM)*	459	3,261	0	0	0	0	0	0	0	Continuing
	Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

AFSEM program terminates at end of FY 97.

Continuous Acquisition and Life-Cycle Support (CALS) concept. It funds the Air Force support equipment (SE) management objective to develop, support, distribute, and methodologies, provides automated tools and infrastructure environments, and improves readiness support to facilitate rapid software turnaround in response to changing identify and evaluate all Air Force ATS for both long and short-term planning. This program is in budget activity 7 - Operational System Development, because projects maintain products that improve Air Force SE acquisition. It supports the Air Force Automatic Test Systems (ATS) Product Master Plan and Air Force ATS Database to mission and/or threat requirements. It conducts research and development to update Air Force digital data standards to commercial industry standards that support the (U) A. <u>Mission Description and Budget Item Justification</u>
This program improves support of embedded computer system software, automates and standardizes weapon system support processes, establishes advanced support are being engineered to support already operational weapon systems.

(U) <u>Acquisition Strategy:</u>
Not applicable. This is a mission support program.

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Exhibit R-2 (PE 0708611F)

POTSE BIIDGET ITE	M.II.S.	TFICATI	NO SH	TEM ILISTIFICATION SHEET (R-2 Exhibit)	2 Exhib	ŧ	DATE		February 1997	
Developme			PE NUM 0708	PE NUMBER AND TITLE 0708611F Supp	TE pport Sy	D ТІПЕ Support Systems Development (SSD)	velopmer	ıt (SSD)		
(U) B. Program Change Summary (S in Thousands)	[8]						Ţ	Total		
(U) FY97 President's Budget		FY 1996 5,613 5,906	FY 1997 5,405 8,405		FY 1998 5,687	FY 1999 5,817	Continuing	Cost		
 (U) Adjustments to Appropriated Value (U) Adjustments to Appropriated Value a. Cong Reductions b. Small Business Innovative Research c. Omnibus/Other Above Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Since FY 97 PB (U) FY 1998/1999 Biennial Budget 	ming	-116 -119 -59 -158	'' wî	-170 -120 -8	-2,030 3,657	-2,050 3,767	Continuing	ing		
(U) Change Summary Explanation: Funding: Not applicable. Schedule: Not applicable. Technical: Not applicable.										
(U) C. Other Program Funding Summary (\$ in T)	in Thousands)								То	Total
 (U) Other Procurement - AF (Project 3090 ESIP) (U) O&M- AF (Project 3090, ESIP) (U) Other Procurement - AF (IMDS)* (U) O&M - AF (IMDS)* 	FY 1996 1,777	FY 1997 1,645	FY 1998 2,044 13,626 2,866 970	EY 1999 2,705 14,026 2,827 966	FY 2000 2,357 12,584 2,808 1,936	EY 2001 2,408 17,115 2,786 2,092	FY 2002 2,479 16,076 2,802 1,939	EY 2003 2,548 17,680 2,772 2,157	Cont Cont Cont Cont	Cont Cont Cont Cont
Related RDT&E: (U) PE 0603108F, Integrated Data Systems (IDS) 14,406 17,332 19,753 19,706 20 ** RDT&E funds located within PE 0603108F, Project 4427, Integrated Maintenance Data Systems (IMDS)	14,406 ct 4427, Integ	17,332 grated Maint	19,753 enance Data	19,706 Systems (IN	20,511 ADS).	37,135	20,527	20,989	Cont	Cont
(U) D. <u>Schedule Profile:</u> See individual projects.										
			Page 2 of 16 Pages	16 Pages			Exhibit	Exhibit R-2 (PE 0708611F)	8611F)	
			1830							

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RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (R	-2 Exhi	bit)		DATE Fet	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	+		PE NI 070	PE NUMBER AND TITLE O708611F Supp	TITLE Upport S	ystems	Jevelopn	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)		РРОЈЕСТ 3090
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3090 Embedded Computer Resources Support Improvement Program (ESIP)	3,072	2,913	2,207	2,391	2,488	7,489	3,576	3,657	Continuing	Continuing
(U) A. Mission Description and Budget Item Justification This project conducts research to improve support of embedded computer system software. It encompasses automation and standardization of support processes, advanced support methodologies, tools and environments, and readiness support to facilitate rapid turnaround of software in response to changing mission and/or changing threat requirements. It is in Budget Activity 7, Operational System Development, because projects are being engineered to support already operational weapon systems.	stification of embedded d readiness s al System De	computer sy upport to fac	stem softwa ilitate rapid because proj	re. It encom turnaround o ects are bein	passes auton of software ir g engineerec	nation and st response to I to support	andardizatic changing n Ilready oper	on of support nission and/o ational weap	t processes, are changing to on systems.	idvanced hreat
 (U) FY 1996 (U) \$200 Demonstrate real-time fault tolerant software techniques. (U) \$200 Demonstrate virtual hypermedia-based support environment. (U) \$270 Demonstrate automated testing for Diverse Avionics Scenarios. (U) \$700 Develop virtual simulator module switching unit. (U) \$470 Transition radio frequency (RF) testing techniques to Air Logistics Centers (ALCs). (U) \$270 Reengineering of JOVIAL code to well-engineered Ada (U) \$562 Develop Advanced Avionics Verification and Validation (AAV&V) static analysis capability (U) \$3,072 Total 	fault tolerant software techniques. permedia-based support environm I testing for Diverse Avionics Sce tor module switching unit. ncy (RF) testing techniques to Air AL code to well-engineered Ada. ionics Verification and Validation	oftware tech id support en iverse Avion itching unit. ig technique ill-engineere	niques. vironment. ics Scenario s to Air Logi d Ada idation (AA	s. istics Centers V&V) static	s (ALCs). analysis cap	ability				
(U) FY 1997 - (U) \$1,008 Test and demonstrate virtual simulator module switching unit. - (U) \$470 Demonstrate AAV&V of cockpit displays. - (U) \$270 Demonstrate initial automated visualization capability. - (U) \$25 Final real-time fault-tolerant software demonstration. - (U) \$470 Enhanced Ada re-engineering demonstration. - (U) \$600 Final demonstration of RF test techniques. - (U) \$2,913 Total	irtual simulator mo otype verification a of cockpit displays omated visualizatio erant software dem leering demonstrati RF test techniques.	or module swion and valid plays. zation capab demonstrati stration ques.	ritching unit. lation system ality.	. 4						
Project 3090			Page 3 of 16 Pages	16 Pages			Exhib	Exhibit R-2 (PE 0708611F))708611F)	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TION SHEET	(R-2 Exhibi	⊕	DATE February 1997	y 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Supp	D TITLE Support Sys	tems Dev	р тпе Support Systems Development (SSD)	РРОЈЕСТ 3090
 (U) FY 1998 (U) \$200 Advanced Avionics Verification and Validation (AAV&V). (U) \$200 Automated Operational Flight Program (OFP) Validation (AutoVal). (U) \$350 Incremental Software Evolution for Real-Time (INSERT). (U) \$300 Legacy Software Re-Engineering Technology (LSRET). (U) \$1,157 Virtual Test Station. (U) \$2,207 Total 	.AV&V). idation (AutoVal). ISERT). RET).				
 (U) FY 1999 (U) \$300 Automated OFP Validation (AutoVal). (U) \$350 Incremental Software Evolution for Real-Time (INSERT). (U) \$250 Legacy Software Re-Engineering Technology (LSRET). (U) \$1,165 Virtual Test Station. (U) \$326 Future Embedded Computer Systems Support Technologies (FEST). (U) \$2,391 Total 	SERT). RET). inologies (FEST)				
(U) B. Program Change Summary (S in Thousands)					
FY	1996 FY 1997 3,106 2,975 3,268 2,975	FY 1998 3,226	<u>FY 1999</u> 3,413	Total <u>Cost</u> Continuing	
(U) Adjustments to Appropriated value a. Cong Reductions b. Small Business Innovative Research c. Omnibus/Other Above Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Since FY97 PB (U) FY 1998/1999 Biennial Budget	-64 -59 -65 -35 -32 -3 3,072 2,913	-1,019	-1,022 2,391	Continuing	
					(
PTO/PCC 20090	rage 4 of 10 rages 1832			EXNIBIT K-2 (PE U/08611F)	14)

RDT&E BUDGET I	TEM JUSTIFICATION SHEET (R-2 Exhibit)	xhibit) DATE	ग्रह February 1997	997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Suppo	Support Systems Development (SSD)		PRОЈЕСТ 3090
(U) Change Summary Explanation:				
Funding: Not applicable				
Schedule: Not applicable.				
Technical: Not applicable.				
(U) C. Other Program Funding Summary (\$ in Thousands): See page 2, C., Other Program Funding Summary.				
(U) D. Schedule Profile				
EY 1996	<u>Y 1997</u>		Y 199	
n	, X C	4 6 7 1	7	4
diverse avionics scenarios. (U) Develop virtual simulator module switching unit	×			
(U) RF testing techniques. (U) Enhanced Ada re-engineering X demonstration.	××			
Advanced Avionics Verification and Xalidation (AAV&V).	×	×		
(U) JOVIAL prototype verification and validation system. (U) Demonstrate automated visualization canability.	×			
(U) Automated OFP Validation (AutoVal)		×	×	
Project 3090	Page 5 of 16 Pages	Exhibit R-:	Exhibit R-2 (PE 0708611F)	
	1822			

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	HEET (R-2 Exhibit)	DATE February 1997	260
	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)		PROJECT 3090
(U) Incremental Software Evolution for Real-Time (INSERT). (U) Legacy Software Re-Engineering Technology (LSRET). (U) Virtual Test Station. (U) Future Embedded Computer Systems Support Technologies (FEST)	FY 1997 2 3 4 1 2 3 X X X X	4 1 2 3 X X X X X X X X X X X X X X X X X X X	4
Project 3090	6 Pages	Exhibit R-2 (PE 0708611F)	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAKI	DOWN (R-3) DATE	TE February 1997	1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Supp	E port Systems	D TITLE Support Systems Development (SSD)	nt (SSD)	РРОЈЕСТ 3090
(U) A. Project Cost Breakdown (\$ in Thousands) (U) Demonstrate real-time fault tolerant software techniques. (U) Demonstrate virtual hypermedia-based support environment. (U) Demonstrate automated testing for diverse avionics scenarios. (U) Develop virtual simulator module switching unit. (U) Develop virtual simulator module switching unit. (U) Develop virtual simulator module switching unit. (U) Brhanced Ada re-engineering demonstration. (U) Brhanced Avionics Verification and Validation. (U) Advanced Avionics Verification and validation system. (U) Demonstrate automated visualization capability. (U) Automated OFP Validation (AutoVal) (U) Demonstrate automated visualization for Real-Time (INSERT). (U) Legacy Software Re-Engineering Technology (LSRET). (U) Virtual Test Station. (U) Future Embedded Computer Systems Support Technologies (FEST) (U) Total (U) Total (U) B. Budget Acquisition History and Planning Information (\$\$in Thousands\$) Not applicable	996	EY 1998 200 350 360 1,157 2,207	300 350 250 1,165 326 2,391		
Project 3090	Page 7 of 16 Pages		Exhibit R.	Exhibit R-3 (PE 0708611F)	

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RDT	RDT&E BUDGET IT	EM JUS	TIFICA.	TION SI	TEM JUSTIFICATION SHEET (R-2 Exhibit)	-2 Exhi	bit)		DATE	February 1997	6
вирсет Астииту 7 - Operational System Developmen	tem Development			PE NI 070	PE NUMBER AND TITLE 0708611F Supp	TITLE Upport S	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)	Developn	nent (SSI	ualy	PROJECT 3318
1 \$) LSOO	COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to	Total Cost
3318 Product Data Systems Modernization (PDSM)	Modernization (PDSM)	1,923	1,933	1,450	1,376	1,425	4,918	2,546	2,604	Continuing	Continuing
(U) A. <u>Mission Description and Budget Item Justification</u> This project implements digital product data management within the Air Force Integrated Weapon System Management infrastructure and ensures uninterrupted transition of functional capabilities of legacy systems to the new joint systems. It is Budget Activity 7, Operational System Development because activities support development and implementation of common information system programs.	in and Budget Item Just jital product data manage legacy systems to the ne information system prog	tification ment within w joint syste rams.	the Air Ford ms. It is Bu	e Integrated	l Weapon Sy y 7, Operatic	stem Manag mal System	ement infras Developmen	tructure and	ensures unir tivities supp	nterrupted tr	nsition nent and
(U) FY 1996 - (U) \$474 M - (U) \$242 Pl - (U) \$170 Cl - (U) \$507 Pl - (U) \$507 Pl - (U) \$507 Pl - (U) \$507 Pl - (U) \$1,923 Tl	Manage AF technical data activities. Plan/participate/activate AF JEDMICS (Joint Engineering Data Management Information and Control System) sites. Complete digital data templates for use in JCALS (Joint Computer-Aided Acquisition and Logistics Support) DT&E Plan/participate in JCALS to ensure AF requirements and schedules are met. Begin to activate AF JCALS sites to ensure timely and accurate data is available and useable. Test digital data specifications/standards and represent AF at international standards activities. Provide direct support to weapon systems, Logistics and Product Centers, and Major Commands (MAJCOMs).	ractivities. F JEDMICS plates for us. to ensure A. S sites to er ions/standar.	(Joint Engi in JCALS (Frequirements (sure timely is and represents, Logistic	neering Dat: Joint Comp nts and sche and accurat, sent AF at in	a Manageme uter-Aided / dules are me e data is avai tternational s ct Centers, a	nt Informati Acquisition a r. ilable and us standards act nd Major Cc	AF JEDMICS (Joint Engineering Data Management Information and Control System) sites. nplates for use in JCALS (Joint Computer-Aided Acquisition and Logistics Support) DT&E/IOT&E). S to ensure AF requirements and schedules are met. ALS sites to ensure timely and accurate data is available and useable. ations/standards and represent AF at international standards activities. weapon systems, Logistics and Product Centers, and Major Commands (MAJCOMs).	ol System) s Support) D AJCOMs).	ites. T&E/IOT&1	Ġ.	
(U) FY 1997 - (U) \$300 M - (U) \$265 Pl - (U) \$206 Dl - (U) \$420 Pl - (U) \$474 Ac - (U) \$208 Te - (U) \$508 Te - (U) \$1,933 Tc	Manage AF technical data activities. Plan/participate/activate JEDMICS sites. Develop and maintain digital data templates for new acquisition technical orders. Plan/participate in JCALS to ensure AF requirements and schedules are met. Activate AF JCALS sites to ensure timely and accurate data is available and useable. Test digital data specifications/standards and represent AF at international standards activities. Provide direct support to weapon systems, Logistics and Product Centers, and MAJCOMs.	a activities. IEDMICS sites. gital data templa S to ensure AF r to ensure timel; tions/standards weapon system.	is. lates for ne- requiremently and accu- is and repres ms, Logistic	w acquisition uts and scheurate data is sent AF at in sand Produ	a activities. IEDMICS sites. gital data templates for new acquisition technical orders. S to ensure AF requirements and schedules are met. to ensure timely and accurate data is available and useable. tions/standards and represent AF at international standards activit weapon systems, Logistics and Product Centers, and MAJCOMs.	rders. t. I useable. tandards act	ivities. As.				

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Page 8 of 16 Pages

Project 3318

Exhibit R-2 (PE 0708611F)

R	RDT&E BUDGET ITEM JUSTIFICATIO	TEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997	1997
BUDGET ACTIVITY 7 - Operational S	DGET ACTIVITY - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)	elopment (SSD)	PROJECT 3318
(U) FY 1998 - (U) \$232 - (U) \$89 - (U) \$179 - (U) \$242 - (U) \$470 - (U) \$179 - (U) \$470 - (U) \$179 - (U) \$179 - (U) \$179 - (U) \$179 - (U) \$179	Manage AF technical data activities. Plan/participate/activate/sustain JEDMICS. Develop and maintain digital data templates for new acquisition technical orders. Plan/participate in JCALS to ensure AF requirements are met. Activate AF JCALS sites to ensure timely and accurate data is available and useable. Test digital data specifications/standards and represent AF at international standards activities. Provide direct support to weapon systems, Logistics and Product Centers, and MAJCOMs. Total	quisition technical orders. re met. data is available and useable. AF at international standards activities. d Product Centers, and MAJCOMs.		
(U) FY 1999 - (U) \$220 - (U) \$85 - (U) \$170 - (U) \$230 - (U) \$451 - (U) \$451 - (U) \$176 - (U) \$176 - (U) \$1376 - (U) \$1,376	Manage AF technical data activities. Sustain JEDMICS. Develop and maintain digital data templates for new acquisition technical orders. Plan/participate in JCALS to ensure AF requirements are met. Activate AF JCALS sites to ensure timely and accurate data is available and useable. Test digital data specifications/standards and represent AF at international standards activities. Provide direct support to weapon systems, Logistics and Product Centers, and MAJCOMs. Total	quisition technical orders. re met. data is available and useable. AF at international standards activities. i Product Centers, and MAJCOMs.		
Project 3318	Page	Page 9 of 16 Pages.	Exhibit R-2 (PE 0708611F)	(c

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RDT&E BUDGET ITEM JUST	TIFICATIO	N SHEET	TEM JUSTIFICATION SHEET (R-2 Exhibit)	<u> </u>	DATE	100
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0708611F Supp	Support Sy	stems Deve	DITILE Support Systems Development (SSD)	PROJECT 3318
(U) B. Program Change Summary (\$ in Thousands)						
(U) FY97 President's Budget (U) Appropriated Value (I) Adjustments to Amoraniated Value	FY 1996 2,044 2,149	F <u>Y 1997</u> 1,974 1,974	FY 1998 1,972	FY 1999 1,889	Total <u>Cost</u> Continuing	
a. Cong Reductions b. Small Business Innovative Research c. Omnibus/Other Above Threshold Reprogramming d. Rescissions (U) Adjustments to Budget Since FY 1997 PB	-42 -43 -20 -121	-39	-522	-513		
(U) FY 1998/1999 Biennial Budget	1,923	1,933	1,450	1,376	Continuing	
(U) Change Summary Explanation: Funding: Not applicable						
Schedule: Not applicable.						
Technical: Not applicable.						
(U) C. Other Program Funding Summary (§ in Thousands) Not applicable						
Project 3318	Page	Page 10 of 16 Pages			Exhibit R-2 (PE 0708611F)	(<u>1</u>
		1838				

RDT&E BUDGET		N J	STIF	CA	NO NO	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	T (R	2 EX	hibit				DATE	February 1997	St 75	66
BUDGET ACTIVITY 7 - Operational System Development	ment					PE NUMBER AND TITLE 0708611F Supp	TE Su	Tie Ibbor	t Sys	tems	Deve	mdo	Б ТПП.E Support Systems Development (SSD)	(as		РРОЈЕСТ 3318
(U) D. Schedule Profile		FY 1996	<u>96</u>			FY 1997	7			FY 1998	86			FY	FY 1999	
(U) Testing digital data specifications/	-	2	3	4	-	2	3	4	-	2	3	4	-	2	3	4 \(\frac{1}{2}\)
international standards activities. (On-going) (U) Management of AF technical data	×		!	1 1 1 1 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	!	1	· 	1					ļ		^
activities. (On-going) (U) Plan/participate/activate AF	×	ļ				:		1	}	ł	:	! ! !	1	}		1
JEDMICS sites, (On-going) (U) Plan/participate in JCALS. (U) Provide direct support to weapon	×							' '								î î
				×												
(U) Begin to activate JCALS sites.(U) Develop digital data templates for new acquisition technical orders.(On-going)		×			×	ļ	;	1		ļ	l			-		1
Project 3318					age II	Page II of 16 Pages	ies.				Ш	xhibit F	≀-2 (PE	Exhibit R-2 (PE 0708611F)	11F)	

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RDT&E PROGRAM ELEMENT/PR	SOJECT CC	LEMENT/PROJECT COST BREAKDOWN (R-3)	DOWN (R-3	DATE	February 1997
BUDGET ACTIVITY 7 - Operational System Development	80	PE NUMBER AND TITLE 0708611F Supp	e port System	Support Systems Development (SSD)	SD) 3318
(U) A. Project Cost Breakdown (S in Thousands)	FY 1996	FY 1997	FY 1998	FY 1999	
(U) Manage AF technical data activities. (U) Plan/participate/activate IFDMICS sites	474	300	232	220	
_	170	703 708	621 179	85 170	
(U) Complete digital data templates for use in JCALS DT&E/IOT&E.	170				
(U) Develop and maintain digital data templates for new acquisition technical orders		206	179	170	
(U Plan/participate in JCALS to ensure AF requirements and schedules are met.	507	420	242	230	
(U) Activate AF JCALS sites to ensure timely and accurate data is available and useable.	302	474	470	451	
(U) Provide direct support to weapon systems, Logistics and Product Centers, and Maior Commands (MAJCOMs).	28	09	89	50	
(U) Total	1,923	1,933	1,450	1,376	
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	in Thousands)				
Project 3318	Page 12.	Page 12 of 16 Pages		Exhibit R-3 (PE 0708611E)	0708611E)
					V/00011F/

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION SI	HEET (F	3-2 Exh	bit)		DATE Fe	February 1997	766
BUDGET ACTIVITY 7 - Operational System Developmen	nt		PE NI 070	PE NUMBER AND TITLE 0708611F Supp	TITLE Support (PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)	Developr	nent (SS		PROJECT 3759
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
3759 Air Force Support Equipment Management (AFSEM)*	459	3,261	0	0	0	0	0	0	0	Continuing
* AFSEM program terminates at end of FY 97.										
This program is Budget Activity 7, Operational System Development, because projects are being engineered to support already operational weapon systems. The Automatic Test Systems (ATS) Product Group Manager (PGM) Product Master Plan (PMP) and ATS Database development effort is designed to give the ATS Product Group Manager (PGM) the tools to track and plan Air Force ATS direction. The PMP will support standardization and ATS PGM long-term planning by capturing essential data	ustification ystem Develop M) Product M orce ATS direc	ment, becau aster Plan (P tion. The Pl	se projects a	re being eng S Database oort standare	gineered to su developmen lization and	upport alread t effort is de: ATS PGM Ic	ly operations signed to giv ong-term pla	al weapon sy re the ATS F	vstems. The roduct Grou pturing essen	Automatic p itial data
will also include the ATS Tracking Requirements Database. It will provide ATS users and managers the capability to determine existing ATS inventory and ATS developments. The ATS Database will be made available remotely to ATS PGM customers via Ethernet Local Area Network and be accessible on the World Wide Web. The follow-on effort to use the developed ATS Product Master Plan and ATS Database tools require specialized studies focusing on targeted ATS product lines to achieve ATS standardization and common support equipment goals. The ATS Standardization effort will accomplish analyses, development and/or acquisition plans for standardized ATS and ATS software to satisfy replacement requirements for aging/unsupportable Depot and intermediate avionics ATS, and include expansion capabilities for the addition of new weapon system requirements. Accomplishment of up-front ATS requirements analyses with a goal to provide improved logistics support for multiple weapon systems, while downsizing the Air Force ATS inventory, will ensure Air Force and DoD goals are met.	all A IS identitied in the PMP and be used to interface with Integrated Database. It will provide ATS users and managers the capability to de vailable remotely to ATS PGM customers via Ethernet Local Area Ne oduct Master Plan and ATS Database tools require specialized studies lent goals. The ATS Standardization effort will accomplish analyses, alacement requirements for aging/unsupportable Depot and intermediat its. Accomplishment of up-front ATS requirements analyses with a ge ir Force ATS inventory, will ensure Air Force and DoD goals are met.	tied in the Provide will provide of the Provide of	MP and be u. ATS users ar PGM custom S Database to lardization ef aging/unsup o-front ATS ill ensure Ali	sed to interf nd managers ers via Ethe ools require ffort will acc portable De requirement	ace with Inte is the capabilismet Local A specialized somplish and pot and intel s analyses w	egrated Weat ty to determine area Network studies focus alyses, develor mediate avic ith a goal to	ine existing, and be acce ing on target ppment and/, onics ATS, a provide imp	Master Plans ATS invento sssible on the ted ATS pro or acquisitio on d include e	i. The ATS I ary and ATS wy and ATS world Widder lines to a plans for expansion calles support files support files	Database e Web. achieve pabilities or
 (U) FY 1996 (U) 433 Develop detailed Product Line Master Plans. (U) 20 Update ATS Database. (U) 5 Maintain ATS Database software. (U) 1 Program Management Support. (U) 459 Total 	ct Line Master software. Support.	Plans.								
Project 3759			Page 13 of 16 Pages	16 Pages			Exhibil	Exhibit R-2 (PE 0708611F)	708611F)	
			1841							

RDT&E BUDGET ITEM JUS	EM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	iŧ	DATE February 1997	7 1997
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE 0708611F Supp	DTITLE Support Sy	stems Deve	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)	PROJECT 3759
(U) FY 1997 – (U) 235 Develop detailed Product Line Master Plans. – (U) 20 Update ATS Database. – (U) 5 Maintain ATS Database software. – (U) 1 Program Management Support. – (U) 3,000 SPARES Project - Congressional add – (U) 3,261 Total	or Plans.					
(U) <u>FY 1998</u> Not applicable. Program terminated.						
(U) FY 1999 Not applicable. Program terminated.						
(U) B. Program Change Summary (S in Thousands)						
(U) FY97 President's Budget(U) Appropriated Value(U) Adjustments to Appropriated Value	FY 1996 463 489	FY 1997 456 3,456	FY 1998 489	FY 1999 515	Total <u>Cost</u> TBD	
 a. Cong Reductions b. Small Business Innovative Research c. Omnibus/Other Above Threshold Reprogramming d. Below Threshold Reprogramming e. Rescissions 	01.1. v. 4	-69 -120 -3				
(U) Adjustments to Budget Since FY 1997 PB (U) FY 1998/1999 Biennial Budget	459	3,261	-489 0	-515 0	TBD	
Project 3759	Page	Page 14 of 16 Pages	-	41	Exhibit R-2 (PE 0708611F)	1F)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Support Systems Development (SSD)	PROJECT
(U) Change Summary Explanation:		
Funding: AFSEM efforts terminate at end of FY97.		
Schedule: Not applicable,		
Technical: Elimination of AFSEM funding will limit the ability of the ATS PGM to track and plan ATS development efficiently.	e ATS PGM to track and plan ATS development efficient	tly.
(U) C. Other Program Funding Summary (\$ in Thousands) Not applicable.		
(U) D. Schedule Profile		
1 2 3 4 1 1	FY 1997 2 3 4 1 2 3 4	FY 1999 1 2 3 4
Project 3759	Page 15 of 16 Pages Exhibit	Exhibit R-2 (PE 0708611F)
	1843	

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)	COST BREAK	DOWN (R-		DATE February 1997	v 1997
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0708611F Supp	Port System	D TITLE Support Systems Development (SSD)	nt (SSD)	PROJECT 3759
(U) A. Project Cost Breakdown (\$ in Thousands)					
FY 1996	<u>EY 1997</u>	FY 1998*	FY 1999*		
(U) Develop Product Line Master Plan (U) Update ATS Database (U) Maintain ATS database software 5 (U) Program Management Support (U) SPARES (U) Total					
* AFSEM efforts will terminate at end of FY97.					
(U) B. Budget Acquisition History and Planning Information (\$ in Thousands) Not applicable.	<u>(§)</u>				
Project 3759	Page 16 of 16 Pages		Exhibit R-	Exhibit R-3 (PE 0708611F)	F)

RDT&E BUDGET IT	TEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA	TION S	HEET (R	-2 Exhi	bit)		DATE Fe	February 1997	266
вирбет Астилт 7 - Operational System Developmen	l ,		PE NI 080	PE NUMBER AND TITLE 0804734F Cryp	PE NUMBER AND TITLE 0804734F Crypto/Sigint Related Skill Tng	gint Rela	ted Skill			PROJEСТ 1005
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
1005 SENTINEL BRIGHT PHASE II/SENTINEL II	1,009	1,781	1,427	0	0	0	0	0	4,342	7,668
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
								,		

(U) A. <u>Mission Description and Budget Item Justification</u>: Provides funding required for the SENTINEL II (SII) Integration Program which is designed to complete the software development begun under SENTINEL II BRIGHT II (SBII) and to automate and integrate the commercial off-the-shelf hardware and software purchased for SBII and SENTINEL ASPEN II (SAII) systems. SBII supports cryptologic analysts and maintenance personnel; SAII supports general military personnel. This program parallels the fielding of modernized operational intelligence systems and corrects long-standing deficiencies in training "mission ready" intelligence professionals. System Development will be completed in FY98.

Page 1 of 5 Pages

Project 1005

Exhibit R-2 (PE 0804734F)

PE NUMBER: 0804734F

PE TITLE: Crypto/Sigint Related Skill Tng

UNCLASSIFIED

RDT&E BUDGET	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	DATE February 1997
BUDGET ACTIVITY 7 - Operational System Development	PENUMBER AND TITLE 0804734F Crypto/Sigint Related Skill Tng	1
(U) <u>FY 1996 (\$ in Thousands):</u> - (U) \$266 SENTINEL II Contract - (U) \$500 Courseware Development - (U) \$243 Program Office - (U) \$1,009 Total		
(U) FY 1997 (\$ in Thousands): - (U) \$1,282 SENTINEL II Contract - (U) \$369 Courseware Development - (U) \$130 Program Office - (U) \$1,781 Total		
(U) FY 1998 (\$ in Thousands): - (U) \$816 SENTINEL II Contract - (U) \$477 Courseware Development - (U) \$134 Program Office - (U) \$1,427 Total		

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Page 2 of 5 Pages

Project 1005

Exhibit R-2 (PE 0804734F)

Per Number And Title Proceedings Per Number And Title 100	RDT&E BUDGET ITEM JU	TEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	it)	DATE February 1997	1997
FY 1996 FY 1997 FY 1998 FY 1999 1,139 1,934 1,438 0 1,139 1,887 1,438 0 -94 -65 -19 -41 PB 1,009 1,781 1,427 0 eductions and budget constraints Page 3 of 5 Pages	BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AN 0804734F	D TITLE Crypto/Sigi	nt Related Sk	dill Tng	РРОЈЕСТ 1005
FY 1996 FY 1997 FY 1998 FY 1999 FY 1999 1,139 1,954 1,438 0 1,887 -94 -65 -19 -41 -41 -17 -11 0 1,009 1,781 1,427 0 eductions and budget constraints	(U) B. Program Change Summary (S in Thousands)					E	
-94 -65 -19 -41 ogram -17 -17 -11 PB 1,009 1,781 1,427 0 eductions and budget constraints Page 3 of 5 Pages	(U) Previous President's Budget (U) Appropriated Value	FY 1996 1,139 1,139	FY 1997 1,954 1,887	FY 1998 1,438	<u>FY 1999</u> 0	1 otal <u>Cost</u> 7,900	
eductions and budget constraints Page 3 of 5 Pages	(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming	-94 -19 -17	-65 -41				
Summary Explanation: ling: Changes due to Congressional reductions and budget constraints dule: nical:		1,009	1,781	-11 1,427	0	7,668	
nical: Page 3 of 5 Pages	(U) Change Summary Explanation: Funding: Changes due to Congressional reductions an	ıd budget constrain	ıts				
nical: Page 3 of 5 Pages	Schedule:						
Page 3 of 5 Pages	Technical:						
Page 3 of 5 Pages							
Page 3 of 5 Pages							
Page 3 of 5 Pages							
Page 3 of 5 Pages							
Page 3 of 5 Pages							
	Project 1005	Pa	ige 3 of 5 Pages		Û	chibit R-2 (PE 0804734F	

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RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)		DATE Cobange 4007
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0804734F Crypto/Sigint Related Skill Tng	ſ
(U) C. Other Program Funding Summary (\$000 in Thousands)		
(U)RDT&E in PE 35885G, Tactical Crypto 2,567 0 Program (National Security Agency)	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	FY 2003 Compl Cost 0 2,567 6,723
(U) D. Schedule Profile Not Applicable		
Project 1005	Pages	Exhibit R-2 (PE 0804734F)
NNCT	1848 Unclassified	

RDT8	RDT&E PROGRAM E		EMENT/PROJECT		COST BREAKDOWN (R-3)	DOW	Z (R-3		à	DATE February 1997	/ 1997
BUDGET ACTIVITY 7 - Operational System Development	System Devel	opment		PE NU 080	PE NUMBER AND TITLE 0804734F Cryp	பாட் Crypto/Sigint Related Skill Tng	int Rel	ated S	kill Tn	ğ	РВОЈЕСТ 1005
(U) A. Project Cost Breakdown (\$000 in Thousands)	Breakdown (\$000	in Thousands)			:						
			됩	FY 1996	FY 1997	FY 1998	866	FY 1999	666		
(U) Software Development (U) System Engineering Development (U) Configuration Management (U) Program Office Summer	ment ng Development nagement			266 500 065 030	1,282 369 0 40		816 477 0 50		0		
(U) Total	1044			1,009	1,781	Τ,	1,427		0		
(U) B. Budget Acquisition History and Plann	sition History and	Planning Infort	ing Information (\$000 in Thousands)	(housands)							
Performing Organizations	<u>su</u>										
Contractor or Government Performing	Contract Method / Type or Funding	Award or Obligation	Performing Activity	Project Office	Total Prior to					To	Total
Activity	Vehicle	Date	EAC	EAC	$\overline{\text{PY}}$	짋	C	<u>BY1</u>	BY2	Complete	Program
E-Systems F19628-93-C0042	CPAF	Mar 93	TBD	2,098	1,768	266	1,282	816	0	0	4,132
ESC - Hanscom Courseware Dev	N/A	N/A	TBD	846	1,237	200	369	477	0	0	2,583
Program Office Sup	N/A	N/A	TBD 264	4	321 243	130	134	0	0	828	8 0
Total				3,208	3,326	3,326 1,009	1,781	1,427	0	0	7,543
Project 1005				Page 5 of 5 Pages	5 Pages			F	Exhibit R	Exhibit R-3 (PE 0804734F)	IF)
				1040					i		

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PE NUMBER: 0901218F
PE TITLE: Civilian Compensation Program

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	TION S	HEET (R	1-2 Exhi	bit)		DATE Fel	February 1997	260
BUDGET ACTIVITY 7 - Operational System Development	ر		PE NE	PE NUMBER AND TITLE 0901218F CIVIII	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	esuedwo	tion Pro	gram	4	РРОЈЕСТ 4139
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
4139 Civilian Compensation Program	6,024	5,793	6,497	6,756	6,973	7,210	7,019	7,149	0	0
(U) A. Mission Description and Budget Item Justification This program element provides for payment of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or cemployment-related disease according to the Federal Employees Compensation Act (FECA) under Title 5 U.S.C., Chapter 81. The Department of Labor (DOL) administers this program and charges the Department of the Air Force for its employee costs; therefore, this is a MUST PAY bill for Air Force. The PE excludes manpower authorizations and costs.	<u>Justification</u> of civilian compensation benefits for disability due to personal injury sustained while in the performance of duty or due to stederal Employees Compensation Act (FECA) under Title 5 U.S.C., Chapter 81. The Department of Labor (DOL) partment of the Air Force for its employee costs; therefore, this is a MUST PAY bill for Air Force. The PE excludes	pensation be yees Compe Air Force fo	mefits for di ensation Act or its employ	sability due (FECA) und yee costs; th	to personal i der Title 5 U erefore, this	njury sustaii S.C., Chapti is a MUST F	ted while in sr 81. The I AY bill for	the perform: department of Air Force.	ance of duty of Labor (DC The PE exclu	or due to)L.) ides
 (U) FY 1996 (\$ in Thousands): (U) \$6,024 Funded and paid disability compensation of personnel assigned to RDT&E activities for injuries and/or illnesses in the performance of duties or due to employment-related disease. (U) \$6,024 Total 	y compensati ed disease.	on of persol	nnel assigne	d to RDT&E	3 activities fo	r injuries an	d/or illnesse	s in the perf	ormance of c	duties or
(U) <u>FY 1997 (\$ in Thousands)</u> : - (U) \$6,260 Required to continue a pt - (U) \$6,260* Total (Actual AF bill)	program to compensate employees assigned to RDT&E facilities for worked-related injury or disease.	ıpensate em	ployees assi	igned to RD'	F&E facilitie	s for worke	l-related inji	ıry or diseas	ပ ဲ	
(U) <u>FY 1998 (\$ in Thousands)</u> : - (U) \$6,497 Required to continue a pr - (U) \$6,497 Total	program to compensate employees assigned to $\mathtt{RDT\&E}$ facilities for worked-related injury or disease	npensate em	ployees assi	igned to RD	F&E facilitie	s for worke	I-related inji	ıry or diseas	ø	
(U) <u>FY 1999 (\$ in Thousands)</u> : - (U) \$6,756 Required to continue a pr - (U) \$6,756 Total	program to compensate employees assigned to RDT&E facilities for worked-related injury or disease	ıpensate em	ployees assi	igned to RD	F&E facilitie	s for worked	l-related inji	ıry or diseas	Ð	
Project 4139			Page 1 of 3 Pages	3 Pages			Exhib	Exhibit R-2 (PE 0901218F)	901218F)	

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	N SHEET	R-2 Exhib	ij.	DATE
BUDGET ACTIVITY 7 - Operational System Development	PE NUMBER AND TITLE 0901218F CIVIII	D TITLE Civilian Co	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	Program 4139
(U) B. Program Change Summary (\$ in Thousands)				
(U) Previous President's Budget 6,024 (U) Appropriated Value	FY 1997 5,917	FY 1998 6,146	FY 1999 6,401	Total <u>Cost</u>
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR	-124			
c. Omnibus or Other Above Threshold Reprogram d. Below Threshold Reprogramming e. Recission (U) Adjustments to Budget Years Since FY 1997 PB (U) Current Budget Submit/98 PB	+343	+351	+355	
(U) Change Summary Explanation: Funding: Increases in FY97 (343), FY98 (351), and FY99 (355) for civilian injury and unemployment compensation costs are due to medical inflation increases and Consumer Price Index (CPI) increases. This information was provided by the Department of Labor (DOL) based on their analysis of FY 96 Federal Employe Compensation Act (FECA) Chargeback costs. DOL administers this program and charges the Air Force for its employee's compensation costs; therefore, both programs are MUST PAY bills mandated by law (5 USC, Chapter 81). DOL bills the Air Force two years after they make the payments for civilian injury compensation benefits, e.g. FY94 bill due in FY 96.	ian injury and une ed by the Departm ram and charges i OL bills the Air F	employment com tent of Labor (Do the Air Force for Force two years a	pensation costs a DL) based on thei its employee's confer they make th	This information was provided by the Department of Labor (DOL) based on their analysis of FY 96 Federal Employees this information was provided by the Department of Labor (DOL) based on their analysis of FY 96 Federal Employees ts. DOL administers this program and charges the Air Force for its employee's compensation costs; therefore, both y law (5 USC, Chapter 81). DOL bills the Air Force two years after they make the payments for civilian injury 1 FY 96.
Schedule:				
Technical:				
Project 4139	Page 2 of 3 Pages		ú	Evhihit R-2 (DE 0004240E)
				VIIIDIL N-Z (P.E. USU IZ INF.)

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ITSUC M	FICATI	ON SH	EET (R	-2 Exhil	bit)		DATE Feb	February 1997	
BUDGET ACTIVITY 7 - Operational System Development			PE NUN 0901	PE NUMBER AND TITLE 0901218F CIVIII	PE NUMBER AND TITLE 0901218F Civilian Compensation Program	ompensa	tion Pro		PROJEC 4139	PROJECT 4139
(U) C. Other Program Funding Summary (S in Thousands)	housands)									
(U) Operation and Maintenance	FY 1996 FY 23,814	FY 1997 21,283	FY 1998 21,562	FY 1999 22,355	FY 2000 22,679	FY 2001 23,528	FY 2002 25,245	FY 2003 25,759	To Compi	Total Cost
Project 4139			Page 3 of 3 Pages	Pages			Exhibit	Exhibit R-2 (PE 0901218F)	01218F)	

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PE NUMBER: A1001018F

UNCLASSIFIED

PE TITLE: NATO ISTARS

RDT&E BUDGET IT	ITEM JUSTIFICATION SHEET (R-2 Exhibit)	TIFICA.	TION S	HEET (F	-2 Exhi	bit)		DATE FeI	February 1997	197
BUDGET ACTIVITY 7 - Operational System Development	.		PE N	PE NUMBER AND TITLE A1001018F NATO JSTARS	TITLE NATO JS	STARS			6. LL.	PROJECT Project
COST (\$ In Thousands)	FY 1996 Actual	FY 1997 Estimate	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
NATO JSTARS	4,281*	6,300*	36,061	97,607	0	0	0	0	0	0
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0
		TO 1010			SO CONTIN					

(U) *NOTE: Funds have been reclassified from PE 64770 into PE A1018F in support of the on-going NATO AGS effort.

(U) A. Mission Description and Budget Item Justification

stationary ground targets (growth to maritime operations), slow moving rotary and fixed wing aircraft, and rotating antennas from an airborne platforms. To meet these AGS system based on Joint STARS and the CGS will be capable of providing target information for pairing direct attack aircraft and standoff weapons against selected NATO initiated the Alliance Ground Surveillance (AGS) program to provide NATO commanders near-real time surveillance and targeting information on moving and contingencies; and provide surveillance and attack information in near-all-weather conditions. This information would enable operational and tactical commanders to needs, the US proposed the modification and enhancement of the US Joint Surveillance Target Attack Radar System (Joint STARS). The Air Force and Army effort currently define an AGS system within the NATO architecture based on JSTARS and the Common Ground Station (CGS). The Air Force is lead service. A NATO make and execute battle decisions. The operational utility of the system was effectively demonstrated by the outstanding performance of the two developmental targets. The system will be capable of being cued by other reconnaissance, surveillance, and target acquisition systems; able to respond rapidly to worldwide aircraft in support of combat operations during Desert Storm and Bosnia.

*NOTE: Funds were identified in PE 64770 BES submission to support the NATO AGS effort. These funds did not transfer with the establishment of the new NATO loint STARS PE (A1018F). Funds have been reclassified from PE 64770 into PE A1018F in support of the ongoing NATO AGS effort.

(\$ in Thousands) Phase II/II NATO Study Embryonic Program Office Other Government Costs (ESC/JPO Support) Total (\$ in Thousand) Phase IV NATO Study Provisional Program Office Other Government Costs (SAF/ESC/JPO Support) Total	
(U) FY 1996 - (U) \$2,978 - (U) \$1,240 - (U) \$4,281 (U) FY 1997 - (U) \$3,782 - (U) \$3,782 - (U) \$50 - (U) \$50 - (U) \$50	•

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Page 1 of 6 Pages

Exhibit R-2 (PE A1001018F)

RDT&E	RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET	R-2 Exhib	Ē.	DATE February 1997	
BUDGET ACTIVITY 7 - Operational System Development	Development	PE NUMBER AND TITLE A1001018F NAT	D TITLE - NATO JSTARS	ARS	PRC Pr C	PROJECT Project
PROJECT NO. AND NAME 0002 NATO JSTARS						
(U) FY 1998 - (U) \$29,161 - (U) \$6,900 - (U) \$36,061	(\$ in Thousands) Phase I EMD Other Government Costs (JPO Support, PPO, GFE, etc.) Total	O, GFE, etc.)				
(U) FY 1999 - (U) \$4,638 - (U) \$92,969 - (U) \$97,607	(\$ in Thousands) Continue Phase I EMD Phase II EMD Total					
(U) B. Program Change Summary (\$ in Thousa	mary (\$ in Thousands)				- - - -	
(U) FY97 President's Budget (U) Appropriated Value	FY 1996 4,500* 4,500	FY 1997 6,300*	FY 1998 0	FY 1999 0	Lotal Cost TBD	
(U) Adjustments to Appropriated Value a. Cong Gen Reductions b. SBIR c. Omnibus or Other Above Threshold Reprogram (U) Adjustments to Budget Years Since FY 1997 PB	ta Value 190 e Threshold Reprogram 23 since FY 1997 PB		36.061	709 20		
(U) FY 1998/1999 Biennial Budget	lget 4,281	6,300	36,061	97,607	TBD	
(U) Change Summary Explanation:	ion:					
(U) Funding: * FY96 a effort. Funds have been (U) Schedule: None (U) Technical: None	 (U) Funding: * FY96 and FY97 Appropriations Acts provided \$4.5 Million and \$6.3 Million to Joint STARS, PE 64770, in support of the initial NATO AGS effort. Funds have been reclassified from PE 64770F into A1018F. (U) Schedule: None (U) Technical: None 	Million and \$6.3 Mi	lion to Joint ST&	.RS, PE 64770, in	support of the initial NATO AC	Se
Project Project 1		Page 2 of 6 Pages		Ä	Exhibit R-2 (PE A1001018F)	

RDT&E BUDGET ITE	TEM JUSTIFICATION SHEET (R-2 Exhibit)	ION SHEET (R	-2 Exhib	æ	Δ	DATE Febru	February 1997	Г
BUDGET ACTIVITY 7 - Operational System Development		PE NUMBER AND TITLE A1001018F NA	TITLE NATO JSTARS	rars			PROJECT Project	بب ا
(U) C. Other Program Funding Summary (\$ in T	in Thousands)							
(U) Aircraft Procurement, BA 7, P-1 70, Misc. Production Charges	FY 1995 FY 1996	FY 1997 FY 1998	FY 1999 94,000	FY 2000 FY TBD	FY 2001 TBD	To Compl TBD	Total Cost TBD	
(U) D. Schedule Profile	FY 1996	FY 1997		Y 199		FY	FY 1999	
(U) CNAD Production Decision (U) Complete NATO Architecture Definition (U) Phase I EMD Start (U) Phase II EMD/Production Start (U) Complete Subsystem Integration of Minimum Interoperability Mods (U) Prototype Flight of NATO Mods	د د	2 3	4 → *	ω * *	4	· · · · · · · · · · · · · · · · · · ·	ω * *	
Project Project 1		Page 3 of 6 Pages			Exhibit R-	Exhibit R-2 (PE A1001018F)	1018F)	

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RDT&E PROGRAM ELEMENT	EMENT/PROJECT COST BREAKDOWN (R-3)	ST BREAK	DOWN (R-3		DATE February 1997	97
BUDGET ACTIVITY 7 - Operational System Development	1d	PE NUMBER AND TITLE A1001018F NAT	TITLE NATO JSTARS		PR Pr	PROJECT Project
(U) A. Project Cost Breakdown (\$ in Thousands)						
	FY 1996	FY 1997	FY 1998	FY 1999		
(U) NATO Studies	2,978	3,782	0	0		
(U) EMD (Phase I)			29,161	4,638		
(U) EMD (Phase II)				92,969		
(U) Other Government Costs	1,303	2,518	6,900			
(U) Total	4,281	6,300	36,061	709'16		
Project Project 1	Page 4	Page 4 of 6 Pages		Exhibit	Exhibit R-3 (PE A1001018F)	

8	RDT&E PROGRAM EI	GRAM EL	EMENT/F	ROJEC	_EMENT/PROJECT COST BREAKDOWN (R-3)	REAKD	OWN (R-	3)	DATE F	February 1997	266
BUDGET ACTIVITY 7 - Operation	BUDGET ACTIVITY 7 - Operational System Developme	evelopmer	ŧ		PE NUMBER AND A1001018F	PE NUMBER AND TITLE A1001018F NAT	TITLE NATO JSTARS	(0			PROJECT Project
										ļ	
(U) B. Budget /	(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>	ry and Plannin	g Information	ı (\$ in Thous	ands)						
Performing Organizations:	iizations:										
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity	Project Office	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
THE PARTY OF THE P	ACIIICA	Calc		EAC	FY 1990	FY 1990	FY 1997	FY 1998	FY 1999	Complete	Program
Northrop Grumman	F19628-94- C-0040	Oct/Dec 95			1,890						1,737
Northrop Grumman	F19628-94-	Apr 96				2,478					2,478
Rome Labs	F30602095-	96 deS				485					485
Northrop	F19628-94-	Jan 97					3,782				3,782
Northrop	TBD	Jan 98						29,161	4,638	TBD	TBD
Northrop Grumman	TBD	Jan 99							92,969	TBD	TBD
Product Development Organizations ESC	ient Organization	ro!						6,900			
Support and Management Organizations MITRE	gement Organizat	ions Oct 04/			c	ų ų	C	i d	¢	į	į
TEMS	C-0001	Jun 96			> (218	739	IBD	0 (OBT	TBD
LEMIS	v arrous Contracts	Mar - May 96			>	476	628	TBD	0	YBD	TBD
Miscellaneous	Various Contracts				0	324	1,151	TBD	0	TBD	TBD
Project Project 1				1	Page 5 of 6 Pages	sə		Exhil	Exhibit R-3 (PE A1001018F)	\1001018F)	

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Contractor of Contract	R	RDT&E PROGRAM EL	3RAM EL		EMENT/PROJECT	COST BREAKDOWN (R-3)	REAKDO	OWN (R	3)	DATE	February 1997	997
Contract Contract Contract Contract Contract Contract Partorning Project Project or Funding	BUDGET ACTIVITY 7 - Operatio	۲ nal System Do	evelopmen	it		PE NUMBER A10010	AND TITLE	O JSTARS				Project
Method/Type Award or Performing Preforming Project Total Or Funding Office Prior to Prior Date P	Contractor or	Contract										10001
Varieties Date Property Date Property Date Property Date	Government	Method/Type	Award or	Performing	Project	Total		- 6	•		,	
F19628-94 Oct/Dec 95 1,890 F19628-94 Apr 96 2,478 C-0040 C-0040 TBD Jan 99 TBD Jan 99 TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD	Activity	Vehicle	Date	EAC	EAC	FY 1996	Budget FY 1996	Budget FY 1997	Budget FY 1998	Budget FY 1999	Budget to Complete	Total Program
C-0040 C-0040 F19628-94- Apr 96 C-0040 F19628-94- Jan 97 F19628-94- Jan 97 F19628-94- Jan 97 F19628-94- Jan 98 F19628-94- Jan 98 F19628-94- Jan 98 TBD Jan 99 TBD TBD TBD TBD TBD TBD TBD TBD TBD TBD	Northrop	F19628-94-	Oct/Dec 95			1,890						1,737
F19028-94 Apr 96 2,478 C10040 F30602095- Sep 96 F30602095- Sep 96 F30602095- Sep 96 F30602095- Sep 96 F30602095- Sep 96 F3060299- Sep 96 F30602095- Sep 96 F3060295- Sep 96 F306	Grumman	C-0040										
Follows Sep 96	Northrop	F19628-94.	Apr 96				2,478					2,478
F19628-94- Jan 97 C-0040 TBD Jan 99 TBD 1,890 4,281 6,300 36,061 97,607 TBD Page 6 of 6 Pages Exhibit R-3 (PE A1001018F)	Rome Labs	F30602095-	Sep 96				485					485
C-0040 TBD Jan 98 TBD 92,969 TBD 1,890 4,281 6,300 36,061 97,607 TBD Page 6 of 6 Pages Exhibit R-3 (PE A1001018F)	Northrop	F19628-94-	Jan 97					3.782				3 787
TBD Jan 98 TBD 92,161 4,638 TBD 92,969 TBD 1,890 4,281 6,300 36,061 97,607 TBD 1.890 4,281 6,300 36,061 87,607 TBD 1.890 4,281 6,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,300 36,061 87,607 TBD 1.890 8,30	Grumman	C-0040						•				701,0
TBD Jan 99 1,890 4,281 6,300 36,061 97,607 TBD 1,890 6,06 Pages Exhibit R-3 (PE A1001018F)	Northrop	TBD	Jan 98						29,161	4,638	TBD	TBD
1,890 4,281 6,300 36,061 97,607 TBD Page 6 of 6 Pages Exhibit R-3 (PE A1001018F)	Northrop	TBD	Jan 99							92,969	TBD	TBD
1,890 4,281 6,300 36,061 97,607 TBD Page 6 of 6 Pages Exhibit R-3 (PE A1001018F)	Grumman											
Page 6 of 6 Pages	Total Project					1,890	4,281	6,300	36,061	67,607	TBD	TBD
Page 6 of 6 Pages												
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	Project Project 1				$P_{\mathcal{L}}$	rge 6 of 6 Page	3.5		Exhit	bit R-3 (PE /	A1001018F)	